Appendix B
Sample Drawings

APPLICATION PACKAGE DRAWINGS

1. Location maps
2. Inland lakeshore protection (rip-rap)
3. Bulkhead/seawall (eg. steel, wood, vinyl, concrete)
4. Pond construction
5. Floodplain fill
6. Wetland boardwalk
7. Dredging
8. Driveway across wetland
9. Residential wetland fill and boardwalk construction
10. Pier/dock/piles
11. Beach sanding
12. Pipe/utility crossing in a trench
13. Directional bore stream crossing
14. A) Bridge or culvert – plan view
    B) Bridge or culvert – elevation view
    C) Existing and proposed crossing – stream and floodplain cross section
    D) Bridge or culvert – profile view
15. Dam
16. Water intake
17. Great Lakes shore protection
18. Maintenance dredge channel
19. Residence in High Risk Erosion Area
20. Residence in Critical Dune Area
21. Marina
22. Proposed outlet pipe
23. Temporary logging road crossing

ADDITIONAL DRAWINGS

24. Boat lift/hoist
25. Boat lift section
26. Boatwell plan
27. Boatwell sections
28. Cross sectional area (channel)
29. Dredge expansion
30. Drain relocation enclosure
31. Existing ramp replacement
32. Fence crossing
33. Fence wetland floodplain stream
34. Floodplain cut fill plan
35. Floodplain cut fill section
36. Floodplain demarcation
37. Groin Plan
38. Groin Section
39. Hoist and davit
40. Hoist side lift plan
41. Hoist side lift section
42. Multiple riprap areas
43. New ramp plan view
44. New ramp section
45. New ramp site plan
46. Pond expansion
47. Waterward/Landward OHWM
48. Waterward/Landward shoreline
49. Wetland floodplain boardwalk
50. Buoys

General Instructions For All Drawings

Required drawings:

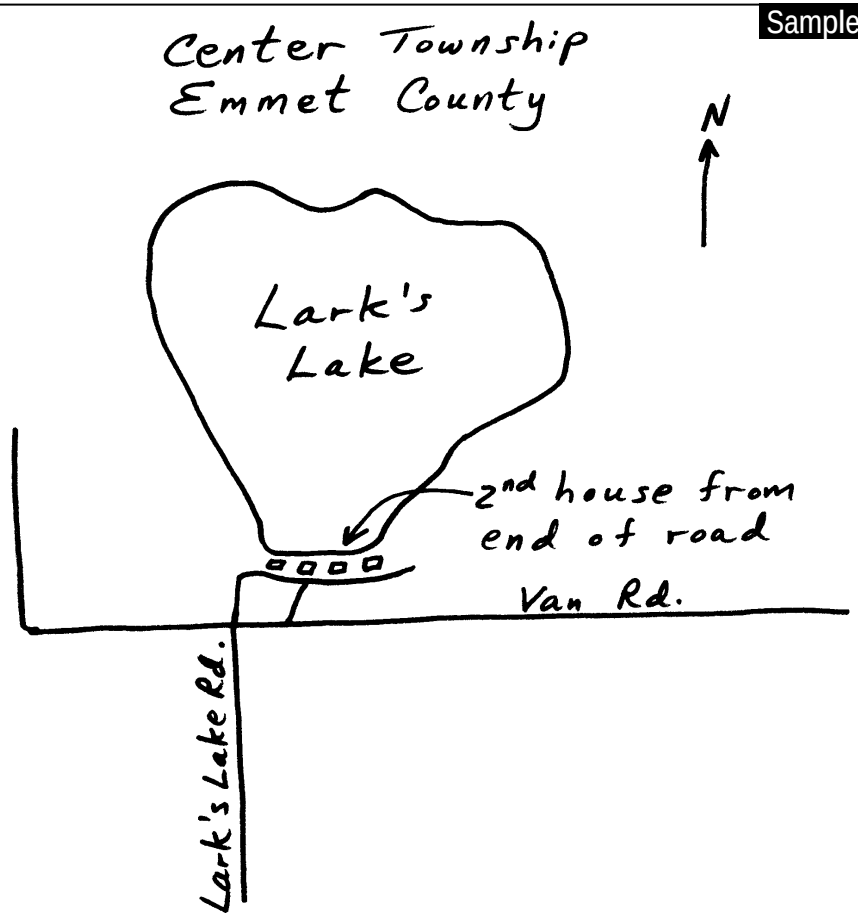
- ❑ **Site location map** that clearly identifies your project location. Draw a map, copy a plat map or a county map, or create a map using the Internet (see Sample Drawing 1).
- ❑ **Overall site plan** showing areas of proposed impacts, existing lakes, streams, wetlands, *floodplains,* and other water features. Include name of waterbodies, property boundaries and corners, easement boundaries, neighboring property owner information, and *soil erosion and sedimentation control measures*.
- ❑ ***Plan view*** and ***cross-section*** (elevation) drawings that are site-specific and adequate for detailed review. Show both existing and proposed conditions (see Sample Drawings 2 through 23).

All drawings should:

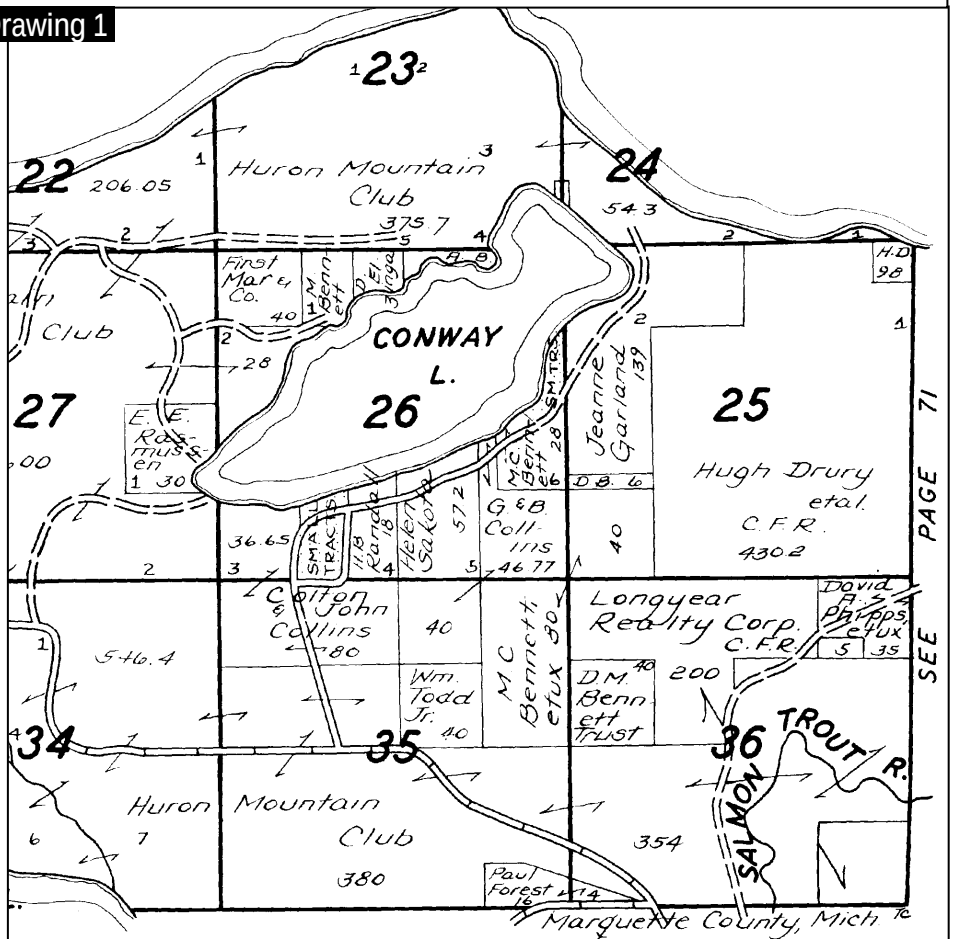
- ❑ Be legible and clearly labeled on standard weight paper of 8-1/2 x 11-inch size. If drawings are engineering plans larger than 8-1/2 x 11, submit a minimum of five copies.
- ❑ Title block on each drawing which includes: proposed activity; applicant's name; waterbody; city, village or township; county; drawing number and number in set (i.e., Drawing 1 of 4), and date prepared.
- ❑ Reference a datum (*NGVD 29* or *IGLD 85*) if the proposed project is on *Section 10 Waters*).
- ❑ Be drawn to scale with the scale identified on each drawing. Show vertical scale if different than horizontal scale on each drawing.
- ❑ All plan view drawings should include a north arrow.
- ❑ Label all existing and proposed relevant features and dimensions relative to those features, especially those that correspond to questions on the application form.
- ❑ Include soil erosion and sedimentation control measures.

NOTE: To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.

Sample Drawing 1



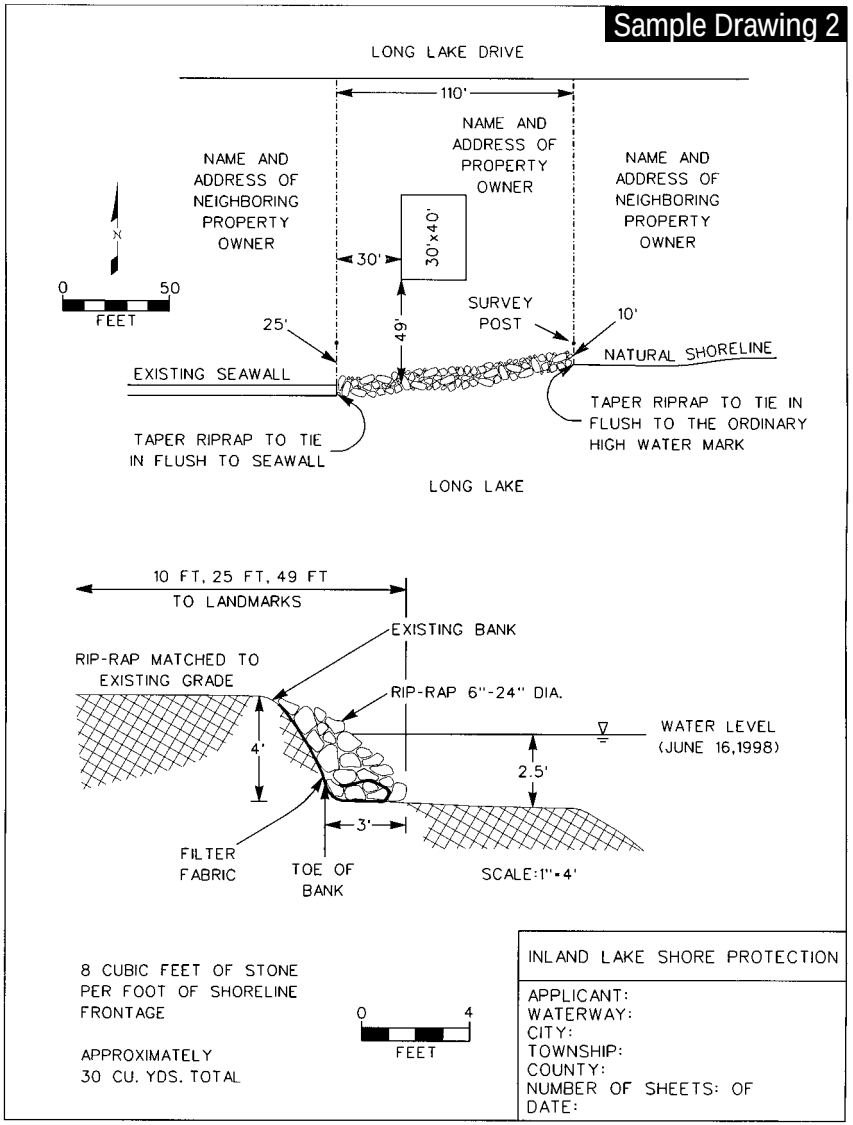
Site location map using a hand-drawn map that is clearly labeled



Site location map using a copy of a county plat book

APPENDIX B
General Instructions for All Drawings and Sample Drawings

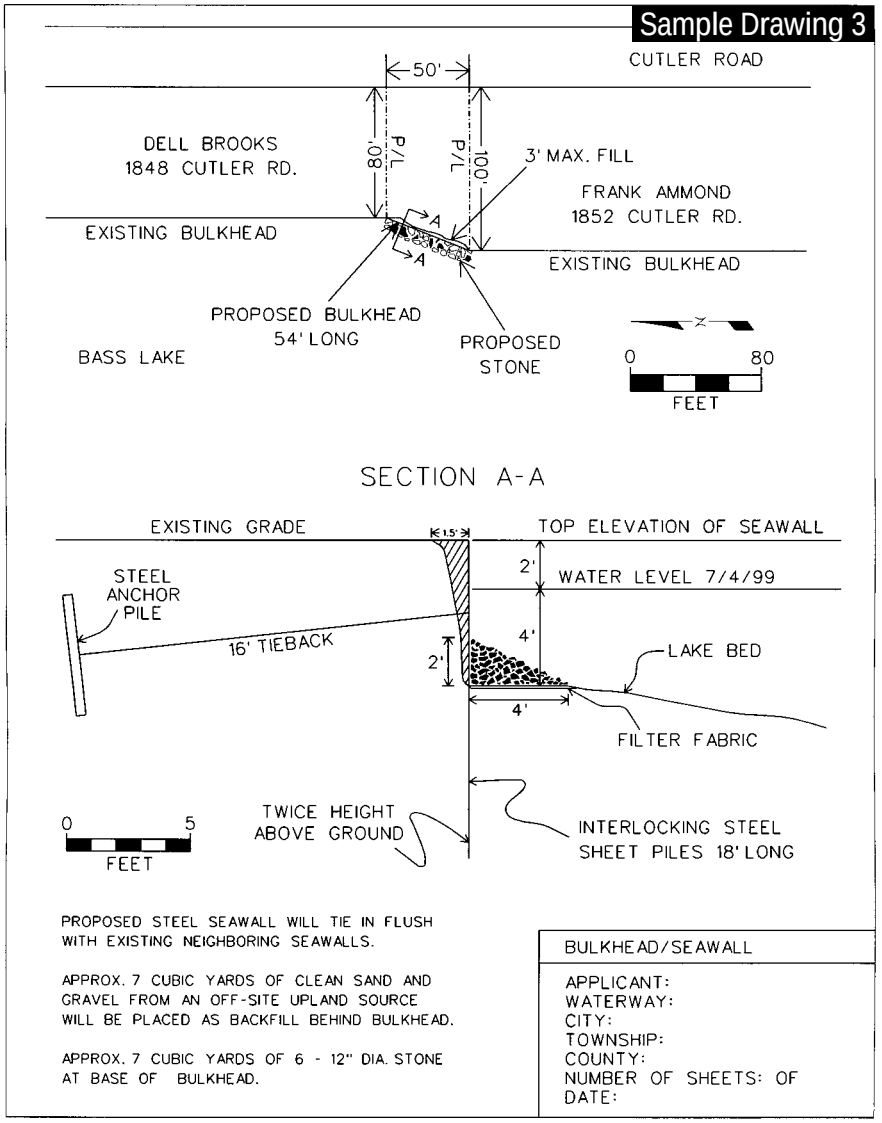
Sample Drawing 2



Complete Section 10D and Sections 10A, 10B, 10C, 12, and 13 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Name of waterbody, neighboring property owner information, and property boundaries and corners.
- ❑ Existing and proposed conditions along the *shoreline* at your project location.
- ❑ Existing conditions and/or structures along the *shoreline* for each adjacent parcel.
- ❑ Dimensions from fixed objects to property boundaries and the proposed shore protection.
- ❑ Length (ft), volume (cu yd) and type (i.e., field stone, angular rock, etc.) of *riprap*.
- ❑ Locations of *filter fabric* and *soil erosion and sedimentation control measures*.
- ❑ Observed water level and date of observation and datum (*NGVD 29* or *IGLD 85* on *Section 10 Waters*).
- ❑ Minimum and maximum distances landward and waterward of proposed shore protection to the existing *shoreline* or ordinary high water mark.

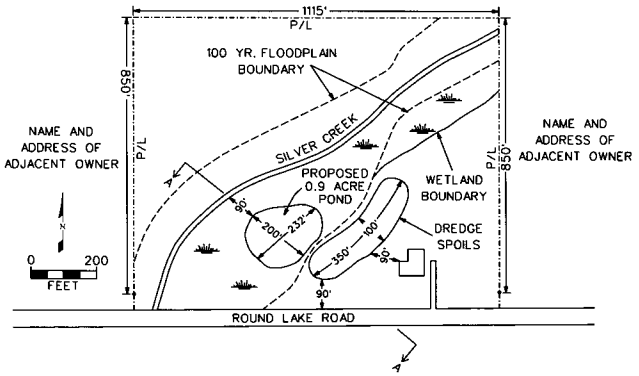
Sample Drawing 3



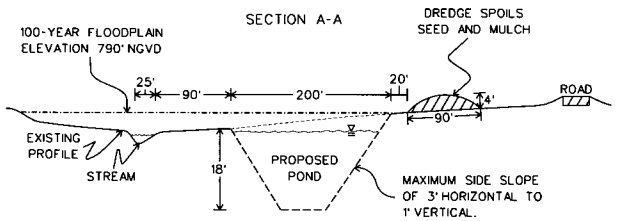
Complete Section 10D and Sections 10A, 10B, 10C, 12, and 13 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Name of waterbody, neighboring property owner information, and property boundaries and corners.
- ❑ Existing and proposed conditions along the *shoreline* at your project location.
- ❑ Existing conditions and/or structures along the *shoreline* for each adjacent parcel.
- ❑ Dimensions from fixed objects to property boundaries and the proposed shore protection.
- ❑ Length of *seawall/bulkhead* and return wall (ft). If *structure* will be tied into adjacent walls, show how.
- ❑ Locations of *filter fabric* and *soil erosion and sedimentation control measures.*
- ❑ Type of construction material (i.e., wood, steel concrete, vinyl, etc.).
- ❑ Observed water level and date of observation and datum (*NGVD 29* or *IGLD 85* on *Section 10 Waters*).
- ❑ Minimum and maximum distances landward and waterward of proposed shore protection to the existing *shoreline* or ordinary high water mark.

Sample Drawing 4



APPROXIMATELY 5000 CU. YD. WILL BE EXCAVATED AND THE DREDGE SPOILS WIL BE PLACED ON-SITE ABOVE THE 100 YR. FLOODPLAIN ELEVATION AND UPLAND OF REGULATED WETLANDS.



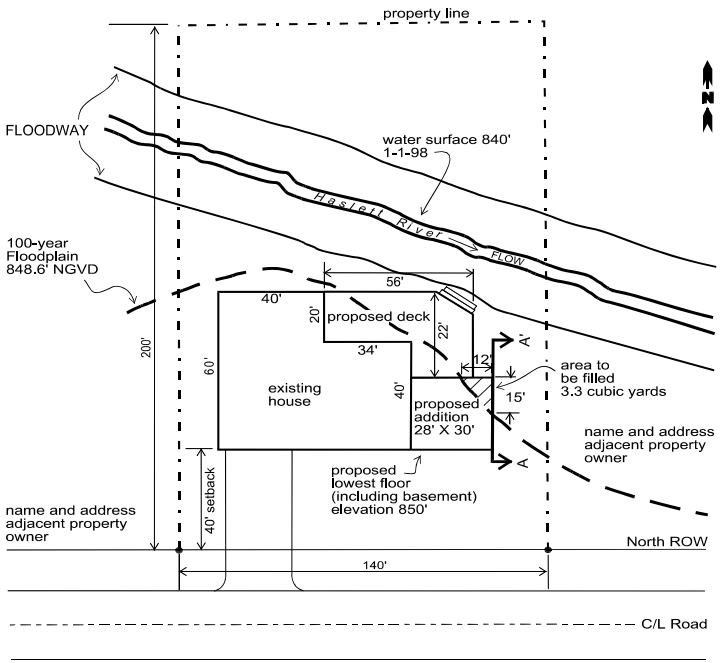
HORIZONTAL SCALE: 0 100 FEET

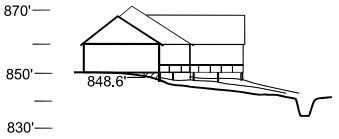
VERTICAL SCALE: 0 18 FEET

POND CONSTRUCTION

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEETS: OF
DATE:

Sample Drawing 5





CROSS-SECTION A - A'

*Elevations may be referenced to a temporary benchmark in those areas where USGS Benchmarks are not already available.

Cubic yards of fill:

$\frac{\text{area (ft}^2\text{) x average depth (ft)}}{27 \text{ ft}^3 / \text{cu yd}}$ = cu yd

$\frac{(15 \text{ ft x } 12 \text{ ft})/2 \text{ x } (1 \text{ ft})}{27 \text{ ft}^3 / \text{cu yd}}$ = 3.3 cu yd

PROPOSED FLOODPLAIN FILL

APPLICANT:
WATERWAY:
CITY/TOWNSHIP: SECTION: ___
COUNTY:
NUMBER OF SHEETS: ___ OF ___
DATE:

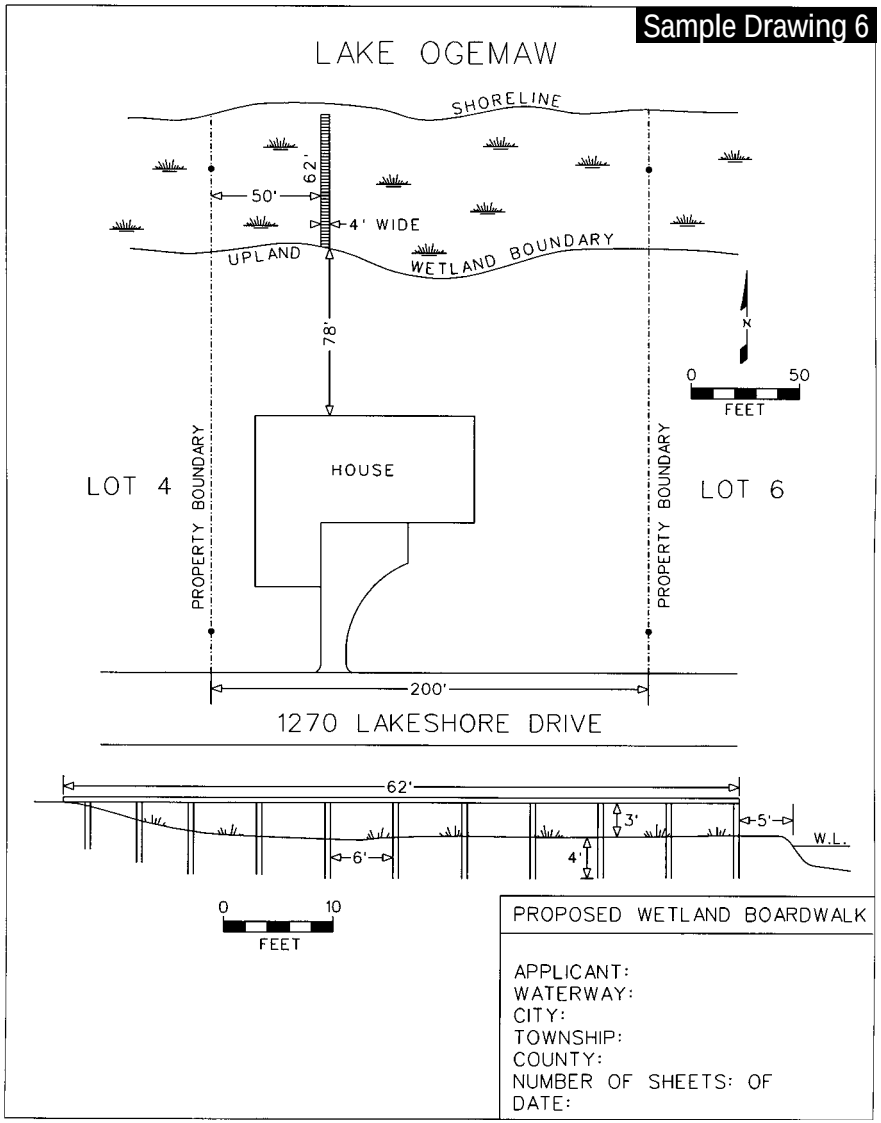
Complete Section 11 and Sections 10A, 10B, 10C, 12, and 13 if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, and other water features.
- ❑ Waterbody names, property boundaries and corners, and neighboring property owner information. Please include property owner information for upstream and downstream adjacent parcels.
- ❑ Existing and proposed conditions in the area of proposed pond.
- ❑ Maximum depth, maximum and typical side *slopes* at edge of pond (vertical/horizontal), pond surface area, and dimensions and distances of proposed pond and spoils disposal area from fixed objects and property boundaries. Spoils should be placed above the 100-year floodplain elevation and upland of regulated wetlands. If off-site disposal is planned, please provide a detailed description of the location.
- ❑ *Soil erosion and sedimentation control measures.*
- ❑ Water levels and dates of observation in nearby surface water and at proposed pond location.
- ❑ Datum (*NGVD 29, IGLD 85* or local) and dredge volume (cu yd).
- ❑ If pond will have a surface water outlet show on plan and *cross-section* drawings.

Complete Section 13 and Sections 10A, 10B, 10C, and 12 if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, and other water features.
- ❑ Waterbody names, property boundaries and corners, neighboring property owner information, and *soil erosion and sedimentation control measures*.
- ❑ Datum used (*NGVD 29 or IGLD 85*).
- ❑ 100-year *floodplain* elevation (if known). Proposed basement floor and finished first-floor elevations (ft).
- ❑ Description of reference point and highest known water elevation (ft) above or below reference point and date of observation (M/D/Y).
- ❑ Existing and proposed building dimensions and minimum and maximum distances of proposed cut and or fill from waterbodies, wetlands, and *floodplain* boundaries (ft).
- ❑ Proposed and existing contours on a site development plan that show compensating cut for proposed fill in the floodplain.
- ❑ Excavation and/or fill dimension (length, width, depth) and volumes (cu yd).
- ❑ Show location of excavated materials. If on site, please show on plans.

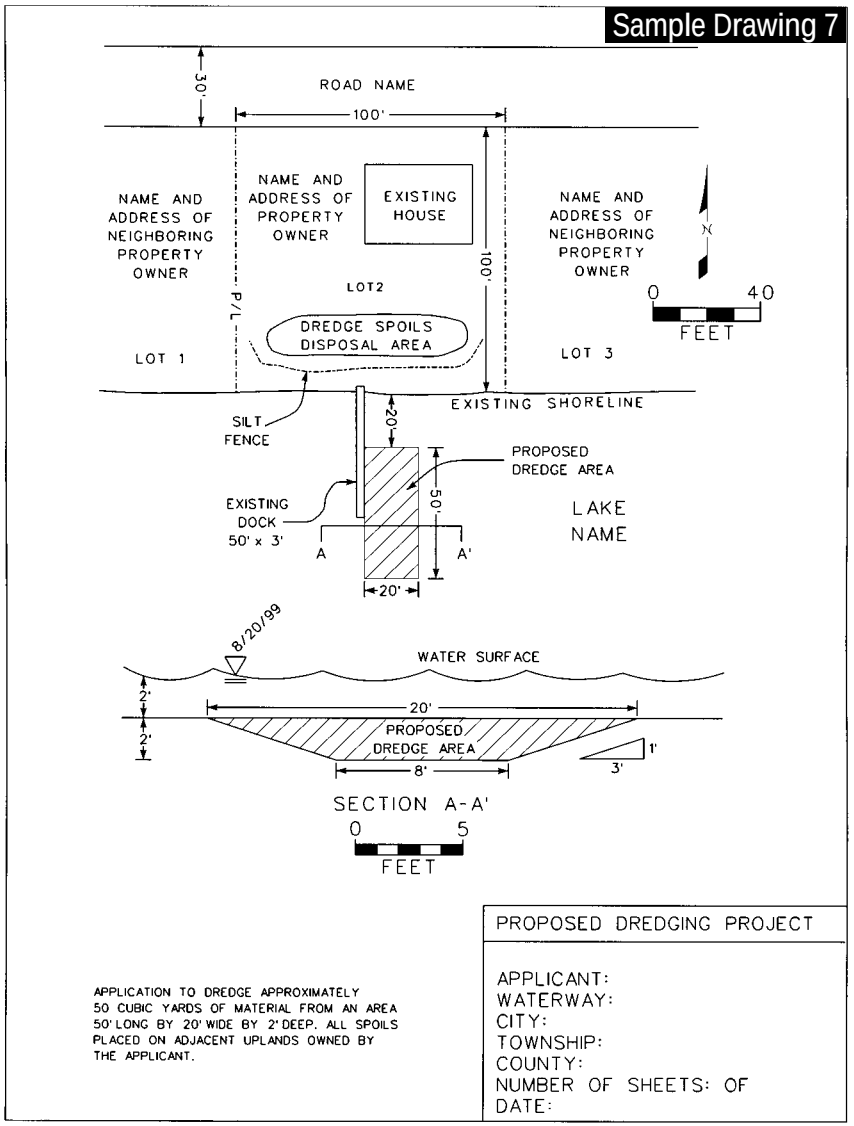
Sample Drawing 6



Complete Sections 10**I** and 12 and Sections 10A, 10B, 13, and 21 if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ The boardwalk or deck dimensions in feet (height, width, and length).
- ❑ In cross-sectional view show the maximum and minimum height of boardwalk above existing ground and the supporting system (i.e. fill or pilings).
- ❑ Distance from end of boardwalk to *shoreline* or ordinary high water mark.
- ❑ The existing and proposed building dimensions and minimum and maximum distances of proposed cut and or fill from waterbodies, wetlands, and floodplain boundaries (ft).
- ❑ The observed water elevation and date of observation (M/D/Y).
- ❑ Datum (*NGVD 29* or *IGLD 85* on *Section 10 Waters*).
- ❑ *Soil erosion and sedimentation control measures*.

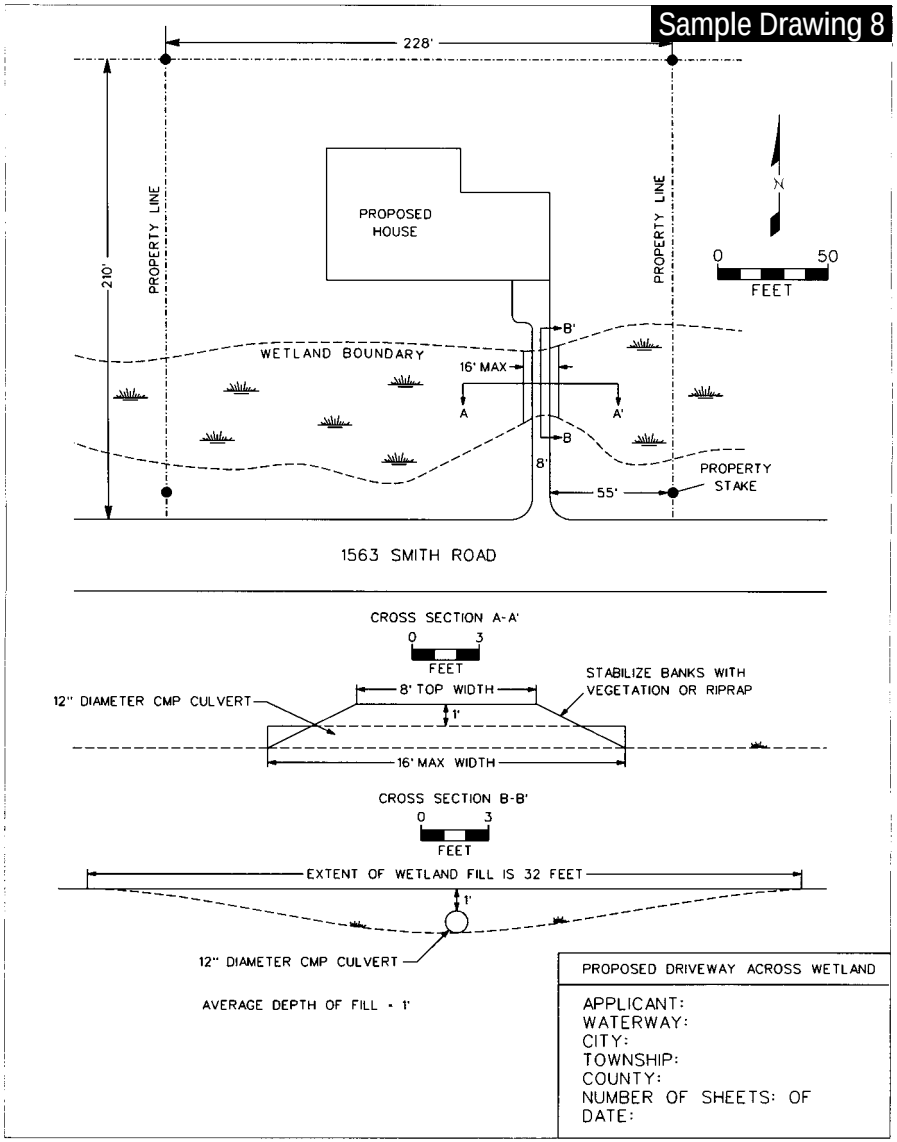
Sample Drawing 7



Complete Sections 10B and Sections 10A, 12, 13, and 21 if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ The dredge spoils disposal area location in an upland area above the 100-year floodplain. If spoils will be disposed of off-site, attach a detailed location. Sediment sampling may be required.
- ❑ The location and dimensions of existing or proposed *docks* or *piers*.
- ❑ The maximum and average dredge dimensions (ft) in both plan and cross-section views. Calculate dredge volume (cu yd) by multiplying average (depth) x (width) x (length) in feet and dividing by 27.
- ❑ The observed water elevation and date of observation (M/D/Y).
- ❑ Datum (*NGVD 29* or *IGLD 85* on *Section 10 Waters*).
- ❑ *Soil erosion and sedimentation control measures*.

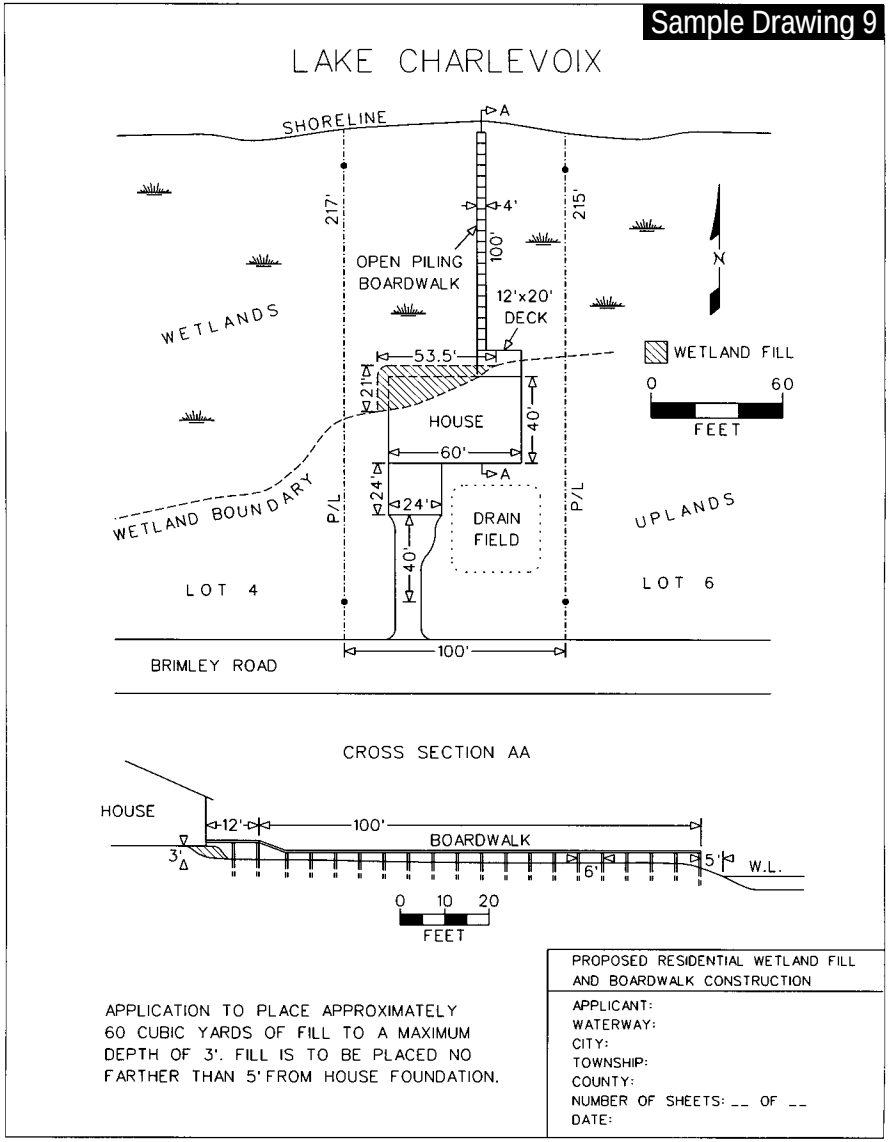
Sample Drawing 8



Complete Sections 10A, 10B, 10C, 12, 13, and 14 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ An overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ Choose the crossing location to provide for minimum impact to the wetland.
- ❑ The length, diameter, and type of culvert that is proposed.
- ❑ The volume of fill in cubic yards by multiplying average (depth) x (width) x (length) and dividing by 27.
- ❑ Method of bank stabilization at the culvert ends.
- ❑ The dimensions for maximum depth and maximum extent of fill. Include dimensions from fixed objects and property boundaries to wetland fill area.
- ❑ *Soil erosion and sedimentation control measures*, if within 500 feet of a lake or stream.

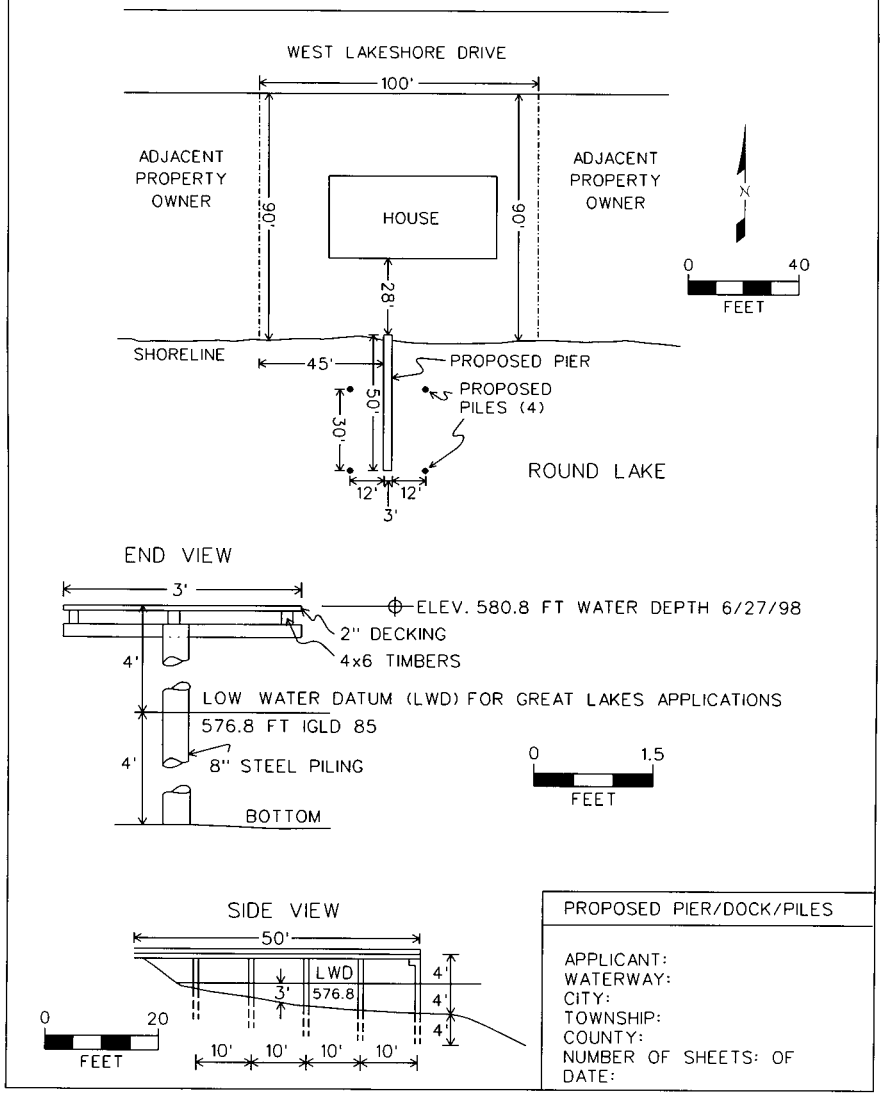
Sample Drawing 9



Complete Sections 10A, 10B, 10C, 12, 13, and 14 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ An overall site plan showing existing lakes, streams, wetlands, *floodplains* and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ Site location plan that provides for minimum impact to the wetland.
- ❑ The dimensions for maximum depth and maximum extent of fill. Include dimensions from fixed objects and property boundaries to wetland fill area.
- ❑ The fill volume (cu yd) calculated by multiplying average (depth) x (width) x (length) in feet and dividing by 27.
- ❑ *Soil erosion and sedimentation control measures*.
- ❑ Observed water elevation, date of observation(M/D/Y).
- ❑ Datum (*IGLD 85* or NGVD 29 on *Section 10 Waters*).

Sample Drawing 10

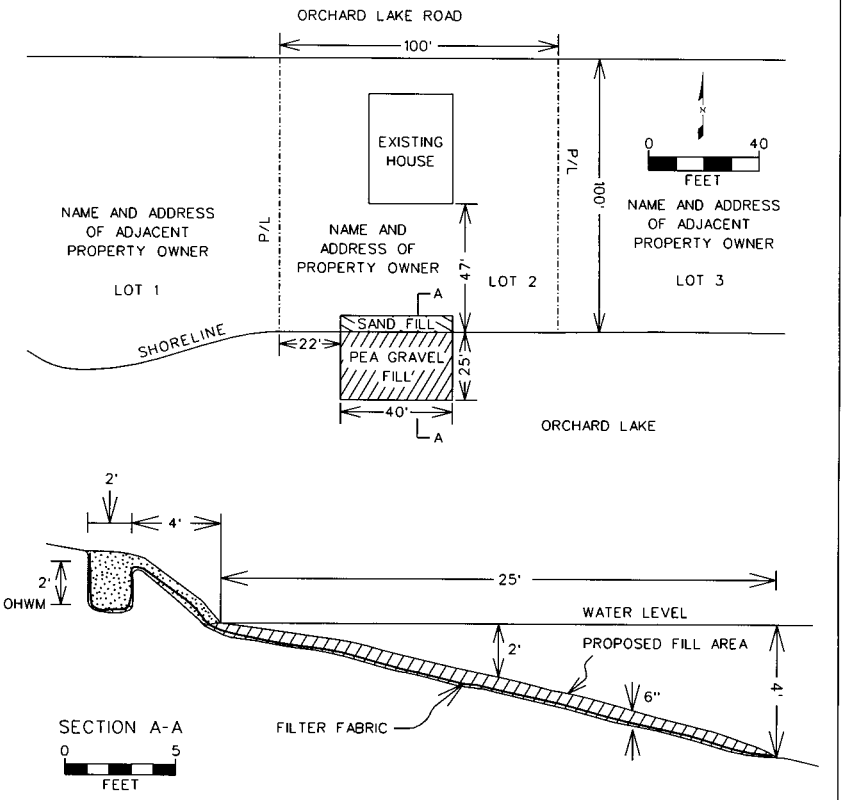


PROPOSED PIER/DOCK/PILES
APPLICANT: WATERWAY: CITY: TOWNSHIP: COUNTY: NUMBER OF SHEETS: OF DATE:

Complete Sections 10A, 10B, 12, 13, and 21 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Name of waterbody, neighboring property owner information, property boundaries, and distances to adjacent property lines from proposed *dock*.
- ❑ Observed water elevation and date of observation (M/D/Y).
- ❑ Datum used (*IGLD 85* or *NGVD 29 on Section 10 Waters*).
- ❑ Dimensions from fixed objects to property boundaries and the proposed *pier, dock,* or *piles*.
- ❑ Existing conditions along the *shoreline* for each adjacent parcel.
- ❑ Dimension of existing *structures* for each adjacent parcel
- ❑ Material used for construction of *pier*, *dock*, and or *piles*.

Sample Drawing 11



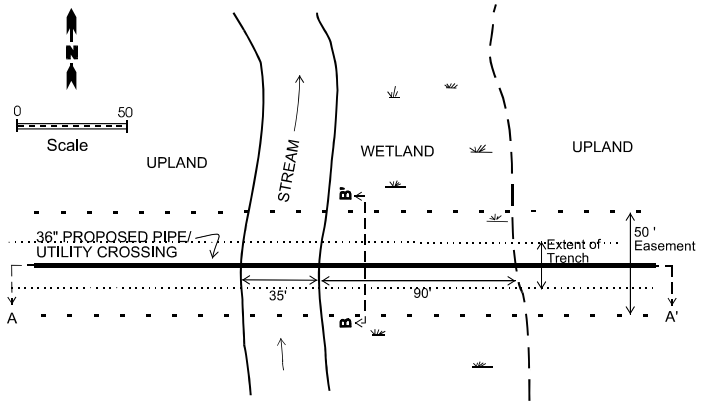
APPLICATION TO PLACE APPROXIMATELY 12 CUBIC YARDS OF CLEAN SAND OR PRE-WASHED PEA GRAVELTO A DEPTH OF 6" WITHIN A 40' x 25' AREA. SAND OR PEA GRAVEL TO BE TRUCKED IN FROM AN UPLAND SOURCE AND PLACED ON FILTER FABRIC.

PROPOSED BEACH SANDING
APPLICANT: WATERWAY: CITY: TOWNSHIP: COUNTY: NUMBER OF SHEETS: OF DATE:

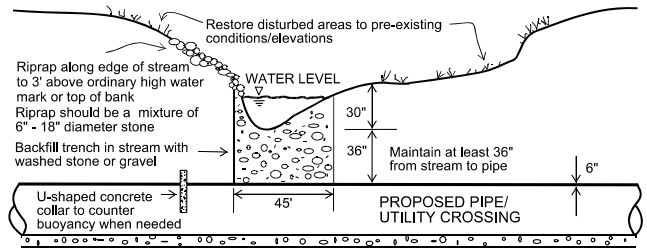
Complete Sections 10A, 10B, 10C, and 12 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ Dimensions of an existing or proposed house, *dock*, or other structures from the proposed sanding area and property boundaries.
- ❑ The maximum and average fill dimensions (ft) in both plan and *cross-section* views. Calculate fill volume (cu yd) by multiplying average (depth) x (width) x (length) in feet and dividing by 27.
- ❑ The observed water level, date of observation (M/D/Y) and datum, if used (*NGVD 29* or local).
- ❑ The extent of *filter fabric*, if used, and how the *filter fabric* will be grounded.
- ❑ *Soil erosion and sedimentation control measures*.
- ❑ Source of clean sand or pre-washed gravel.

Sample Drawing 12



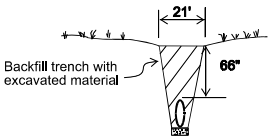
PLAN DRAWING



CROSS SECTION A-A'

6" Bed of sand or gravel

Cross Section Scale
0 50'
Horizontal
0 6'
Vertical



CROSS SECTION B-B'

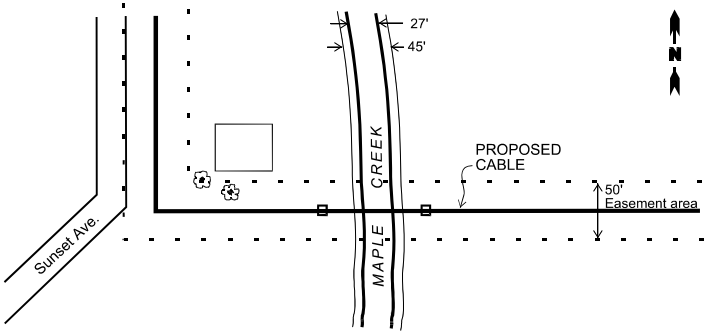
PROPOSED PIPE/UTILITY CROSSING IN A TRENCH

APPLICANT:
WATERWAY:
CITY/TOWNSHIP:
COUNTY:
NUMBER OF SHEETS: ___ OF ___
DATE:

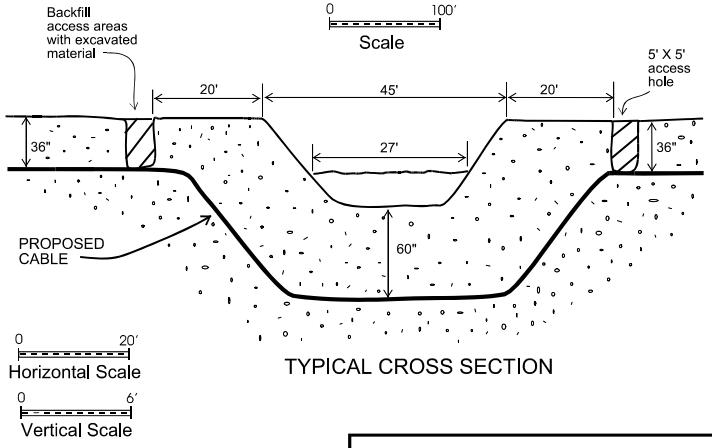
Complete Section 18 and Sections 10A, 10B, 10C, 12, and 13 if applicable to your project.
Provide *plan view* and cross-section site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, easement boundaries, neighboring property owner information, *soil erosion and sedimentation control measures* and datum used (NGVD 29 or local).
- ❑ Location and dimensions (ft) of proposed excavation in both *plan* and *cross-section* views. Calculate excavation volume (cu yd) by multiplying average (depth) x (width) x (length) in feet and dividing by 27.
- ❑ Location of disposal area in upland above the 100-year *floodplain.* If spoils will be disposed of off-site attach a detailed location. If temporary sidecasting, show location and dimensions.
- ❑ Proposed backfill material and source.
- ❑ Proposed installation method (i.e., *flume,* plow, open trench).
- ❑ Pipe diameter, length, and distance below streambed for each crossing.
- ❑ Purpose of crossing (i.e. sanitary sewer, storm sewer, watermain, cable, oil/gas pipeline, etc.)

Sample Drawing 13



PLAN VIEW



TYPICAL CROSS SECTION

PROPOSED DIRECTIONAL BORE STREAM CROSSING

APPLICANT:
WATERWAY:
CITY/TOWNSHIP: SECTION: ___
COUNTY:
NUMBER OF SHEETS: ___ OF ___
DATE:

Complete Section 18 and Sections 10A, 10B, 10C, 12, and 13 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

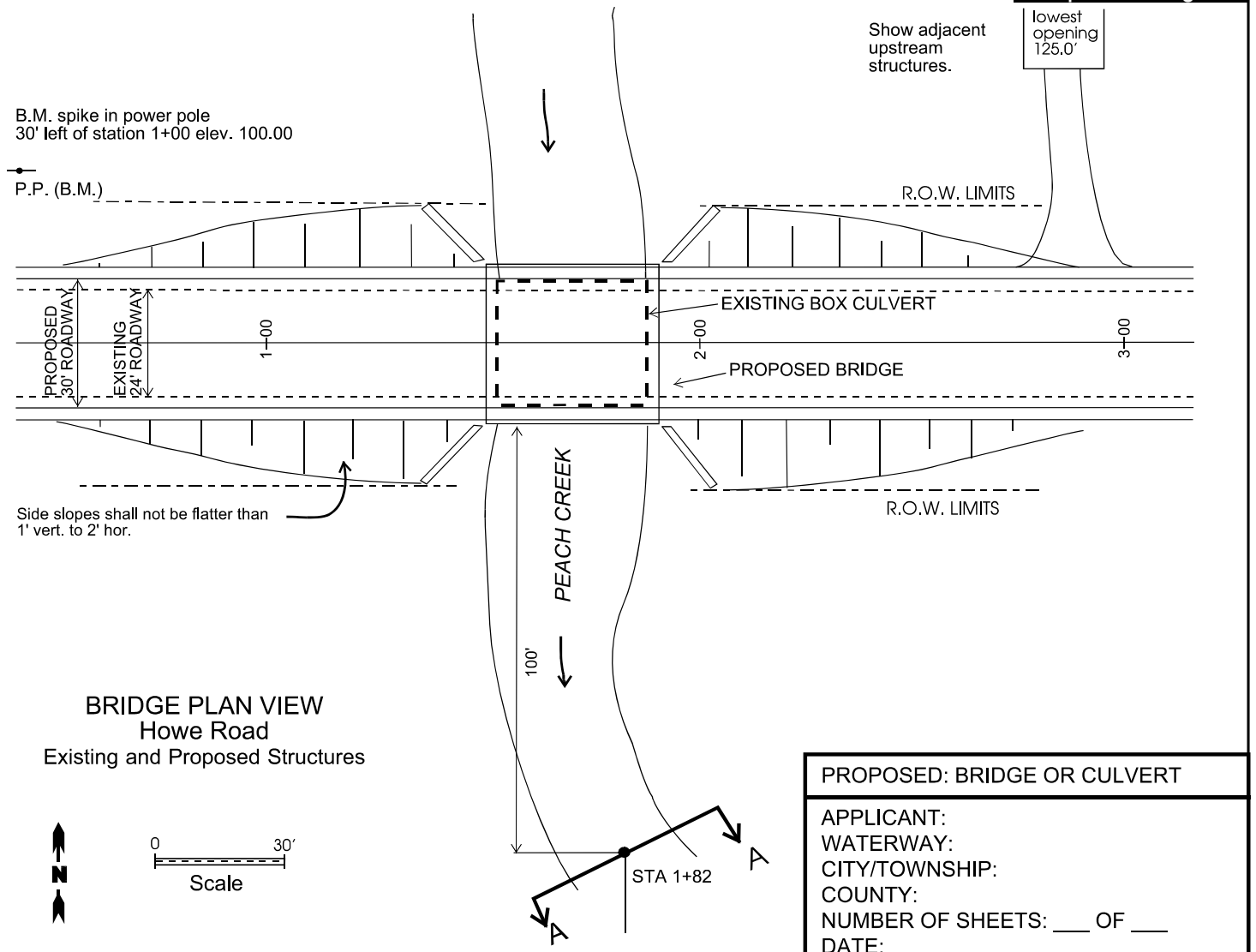
- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, easement boundaries, neighboring property owner information, and *soil erosion and sedimentation control measures*.
- ❑ Excavation dimensions (ft) for drilling or boring inlet and outlet points in both *plan* and *cross-section* views. Calculate excavation volume (cu yd) by multiplying average (depth) x (width) x (length) in feet and dividing by 27.
- ❑ Proposed construction method (i.e., jack and bore or directional drill).
- ❑ Pipe diameter, length, and distance below streambed for each crossing.
- ❑ Purpose of crossing (i.e. sanitary sewer, storm sewer, watermain, cable, oil/gas pipeline, etc.)

Proposed Bridges and Culverts:

Complete Section 14 and Sections 10A, 10B, 10C, 12, 13, and 15 if applicable to your project.

- ❑ Provide an overall site plan showing existing lakes, streams, wetlands, and other water features. Include name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ Provide detailed site-specific drawings of existing and proposed *Plan View* (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and *Floodplain Cross-Sections* (Sample Drawing 14C), and Stream Profile (Sample Drawing 14D) adequate for detailed review.
- ❑ If your project includes *floodplain* fill complete Section 13 and include a site-specific drawing (See Sample Drawing 5).

Sample Drawing 14A



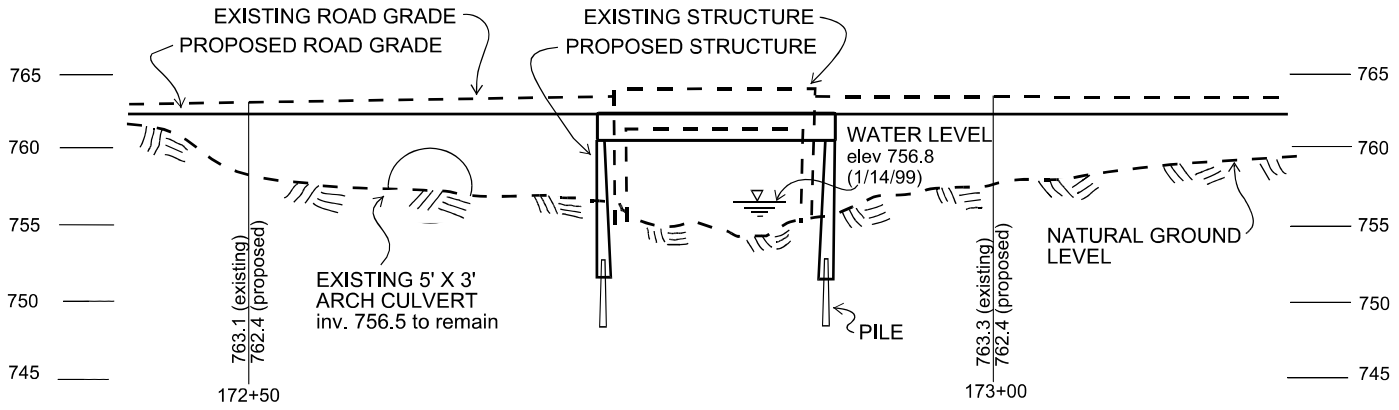
BRIDGE PLAN VIEW
Howe Road
Existing and Proposed Structures

PROPOSED: BRIDGE OR CULVERT
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

Bridge or Culvert Plan View

- ❑ Existing and proposed *structures* and approaches.
- ❑ Property boundaries and or right-of-ways (ROW).
- ❑ Description of reference point and datum used (NGVD 29, IGLD 85 or local).
- ❑ Location of *cross-section* or elevation views.
- ❑ *Soil erosion and sedimentation control measures*.

Sample Drawing 14B



BRIDGE ELEVATION VIEW
Existing and Proposed Structures

0 10'
Scale

Elevations in Feet

PROPOSED: BRIDGE OR CULVERT
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

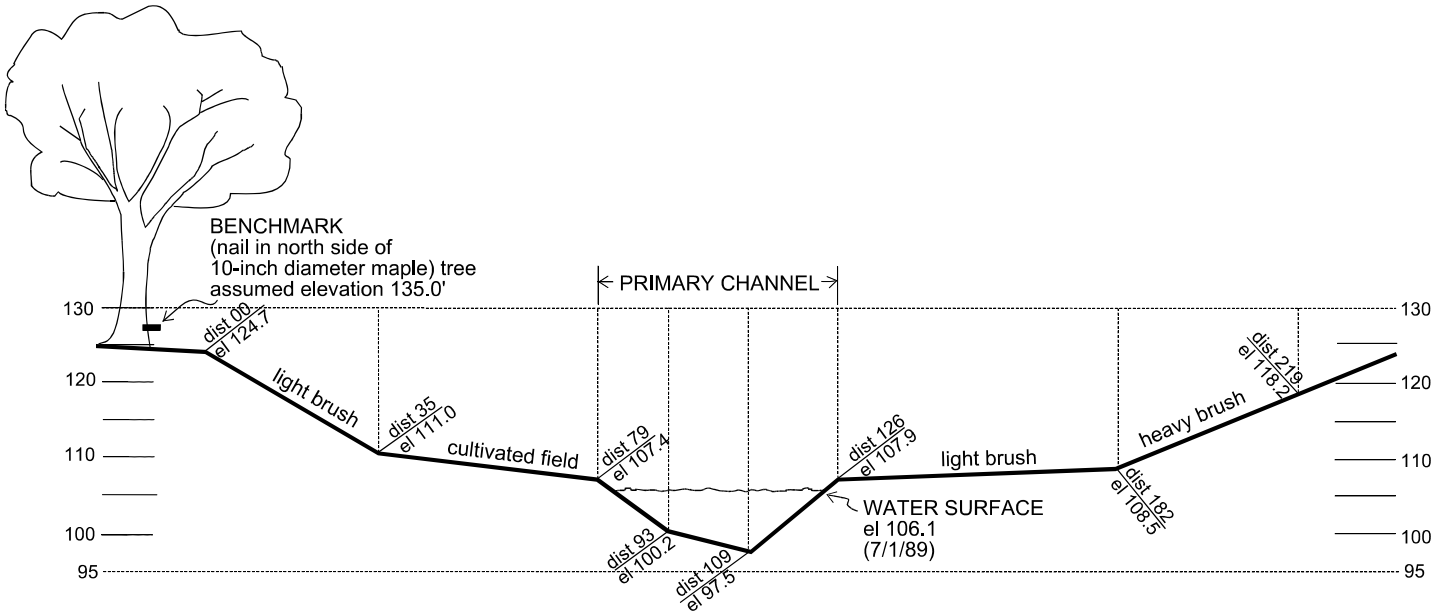
Bridge or Culvert Elevation View

- ❑ All proposed projects need to provide the channel dimensions (bank elevations, top width, bottom width, if channel bottom is horizontal).
- ❑ Observed and highest known water elevations (ft) and dates of observations (M/D/Y).
- ❑ *100-year floodplain* elevation (if known).
- ❑ Basement floor and finished first-floor elevations (ft) of nearby homes and buildings.
- ❑ Elevation *of ordinary high water mark* (OHWM).

Existing and proposed:

- ❑ *Structure* elevations.
- ❑ Road grade and elevation of low points in road.
- ❑ Distance from low point of road to mid-point of *structures.*
- ❑ Upstream and downstream elevations (ft) of culvert crown or bottom of bridge beam.

Sample Drawing 14C



CROSS-SECTION A - A
(Looking Downstream)

Cross-section downstream of proposed replacement structure
typical to the watercourse involved
and taken perpendicular to flood flows

Scale
0 20'
vertical
0 30'
horizontal

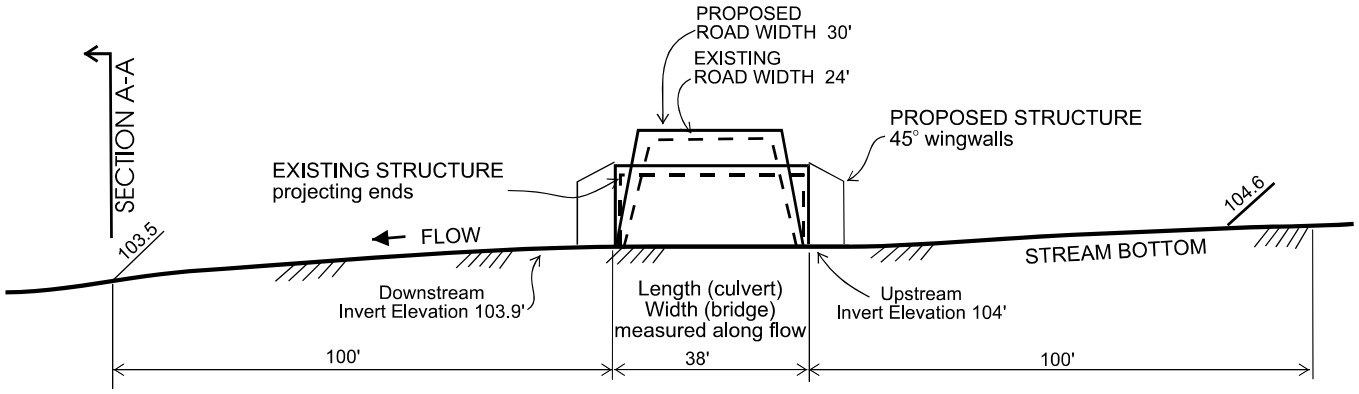
Elevations in Feet
el = grade point elevation in reference to the assumed benchmark

EXISTING & PROPOSED CROSS-SECTION
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

Stream and *Floodplain Cross-Section* View

- ❑ All proposed projects need to provide the channel dimensions (bank elevations, top width, bottom width, if channel bottom is horizontal).
- ❑ Description of reference point and datum used (NGVD 29,IGLD 85, or local).
- ❑ Highest known and observed water elevations (ft) and dates of observations (M/D/Y).
- ❑ *100-year floodplain* elevation (if known).
- ❑ Descriptions of overbank vegetative cover within the *floodplain*.
- ❑ Elevation of *ordinary high water mark* (OHWM).
- ❑ If upstream channel and overbank dimensions and/or vegetative cover differ significantly from the downstream conditions also

Sample Drawing 14D



STREAM PROFILE VIEW
Existing and Proposed Structure,
Invert Elevations and End Treatment

Scale
0 20′
vertical
0 30′
horizontal

PROPOSED: BRIDGE OR CULVERT
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

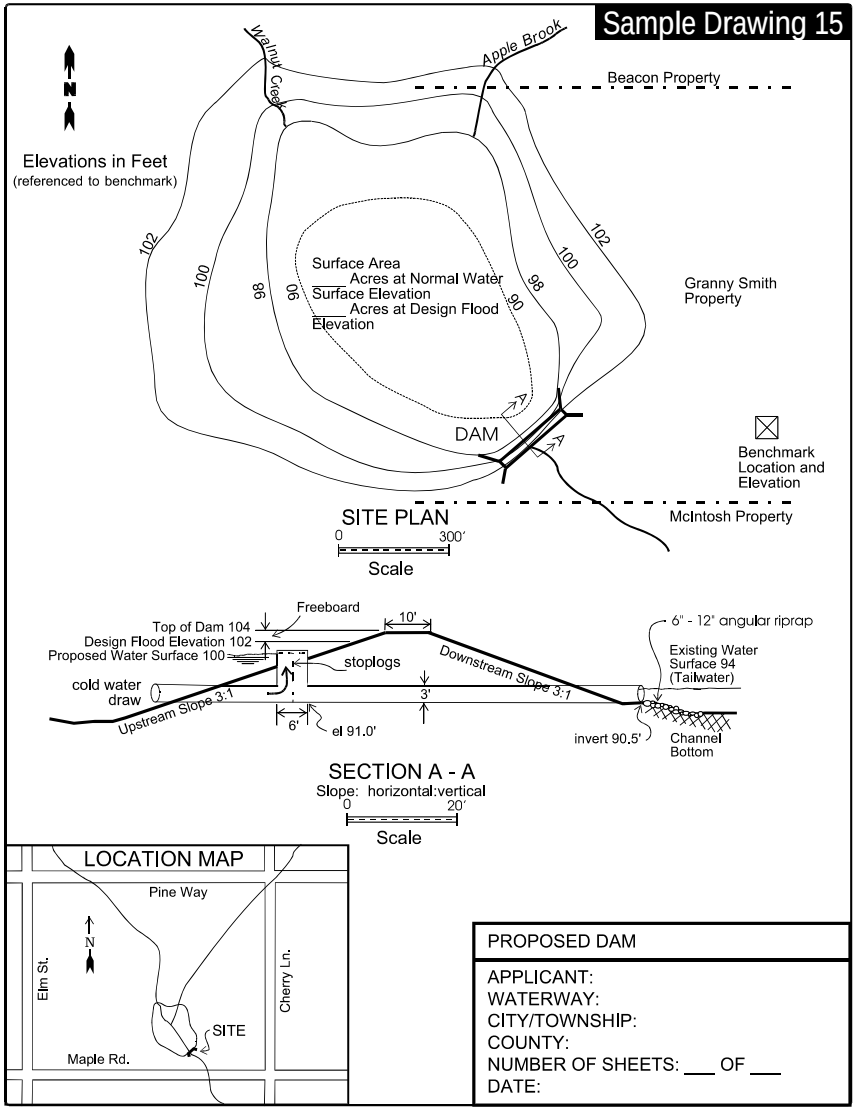
Stream Profile View

- ❑ Datum used (NGVD 29, IGLD 85, or local).
- ❑ Location of *cross-sections*.

Show existing and proposed:

- ❑ Road width and culvert length or bridge width (ft).
- ❑ Upstream and downstream invert elevations (ft)
- ❑ *100-year floodplain* profile (if known).

Sample Drawing 15



PROPOSED DAM
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

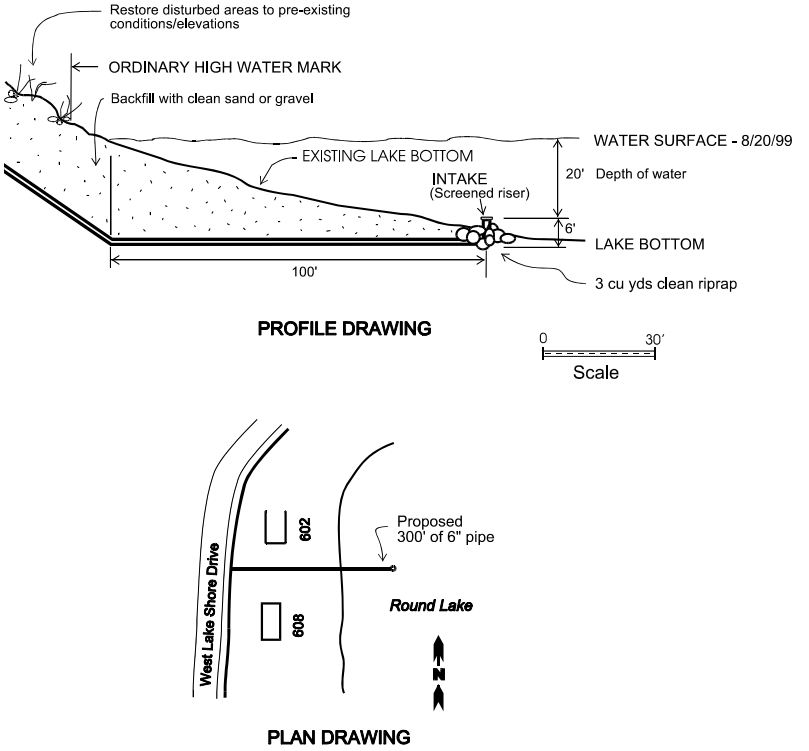
Complete Section 17 and Sections 10A, 10B, 10C, 11, 12, 14, and 16 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains,* and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ Highest known and observed water elevations (ft) and dates of observations (M/D/Y).
- ❑ Datum used (IGLD 85, NGVD 29, or local) and a description of the reference point or benchmark..
- ❑ Elevation of low point in top of embankment excluding spillways.
- ❑ *Soil erosion and sedimentation control measures*.

For a new dam include:

- ❑ Embankment top elevation and streambed elevation at downstream embankment toe.
- ❑ Structural height (embankment top elevation minus streambed elevation at downstream toe).
- ❑ Embankment length, top width, bottom width, and upstream and downstream *slopes* (vert./horiz.).
- ❑ Proposed normal pool and design flood elevations.

Sample Drawing 16

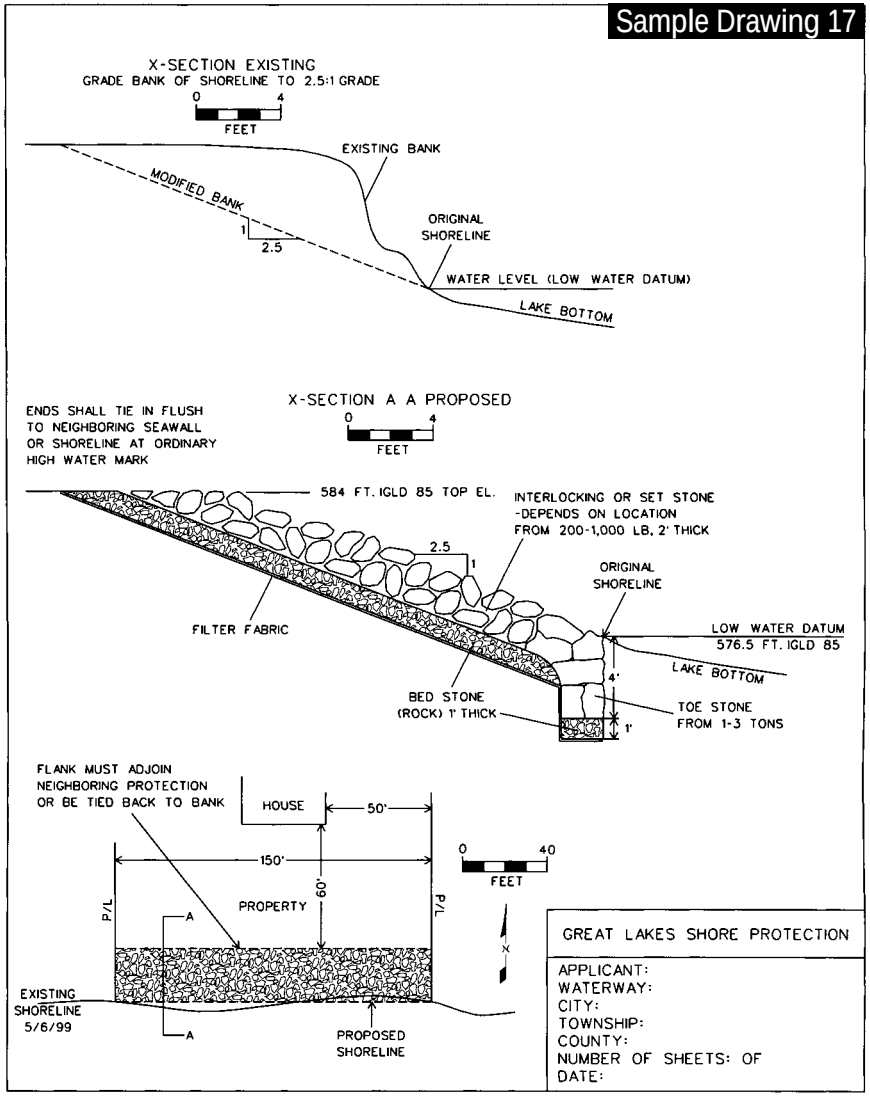


PROPOSED: WATER INTAKE
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

Complete Section 10J and Sections 10A, 10B, 10C, 12, 13, and 16 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, floodplains and other water features.
- ❑ Name of waterbodies, property boundaries, easement boundaries, neighboring property owner information, and *soil erosion and sedimentation control measures.*
- ❑ Highest known and observed water elevations (ft) and dates of observations (M/D/Y).
- ❑ Datum used (IGLD 85, NGVD 29, or local) and a description of the reference point or benchmark.
- ❑ Detailed dimensions (length, width, depth, diameter, etc.) of headwall, end section, and/or pipe.
- ❑ Pipe invert elevation.
- ❑ Number of pipes and pipe diameters and invert elevations.
- ❑ Dimensions from fixed objects to property boundaries and the proposed water intake.

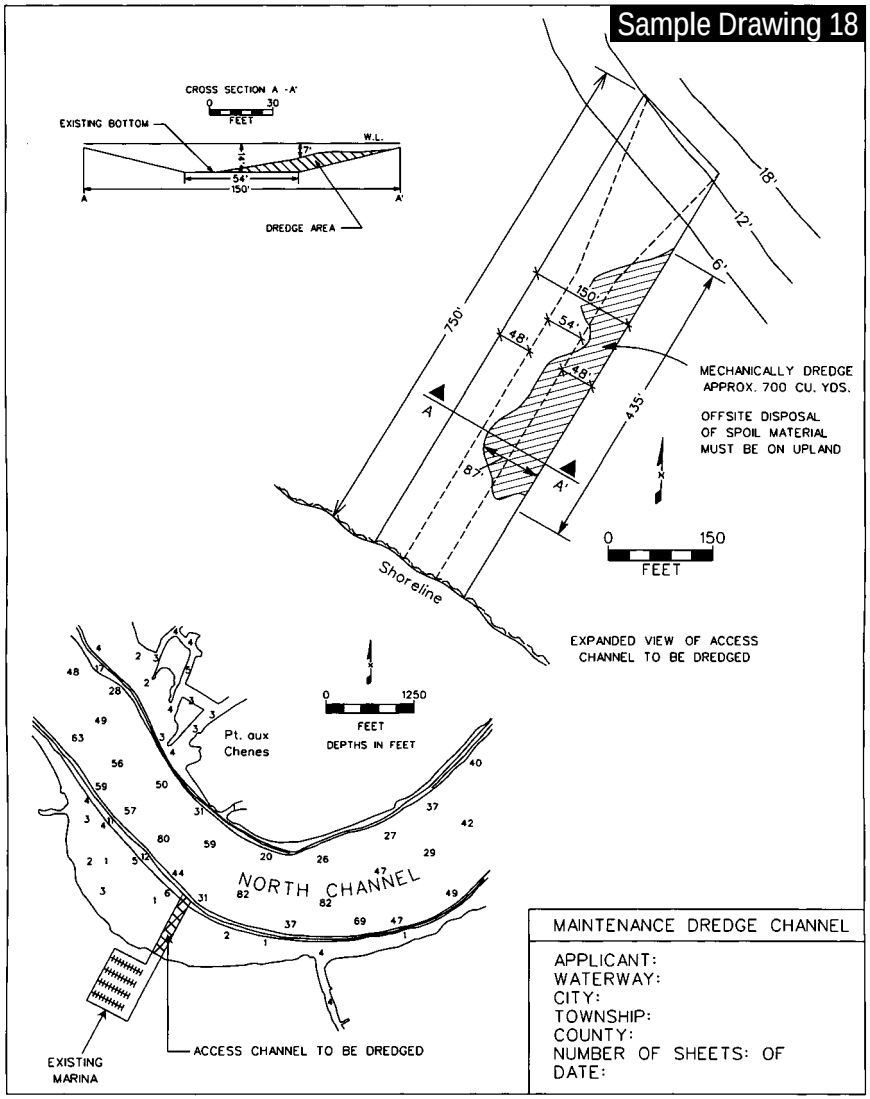
Sample Drawing 17



Complete Section 10D and Sections 10A, 10B, 10C, 12, 20, and 21 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Existing and proposed conditions along the shoreline at your project location.
- ❑ Existing conditions and/or structures along the *shoreline* for each adjacent parcel.
- ❑ Length of proposed shore protection. If shore protection is a *seawall* or *bulkhead*, please provide the return wall length (ft).
- ❑ Details of how *structure* will be tied into existing walls or tied back to bank.
- ❑ Location of filter fabric on *cross-section*.
- ❑ Horizontal and vertical dimensions from fixed objects to property boundaries and the proposed shore protection.
- ❑ Name of waterbody, neighboring property owner information, and property boundaries.
- ❑ *Soil erosion and sedimentation control measures*.
- ❑ Observed water elevation, date of observation, and datum (IGLD 85 or NGVD 29 on Section 10 Waters).

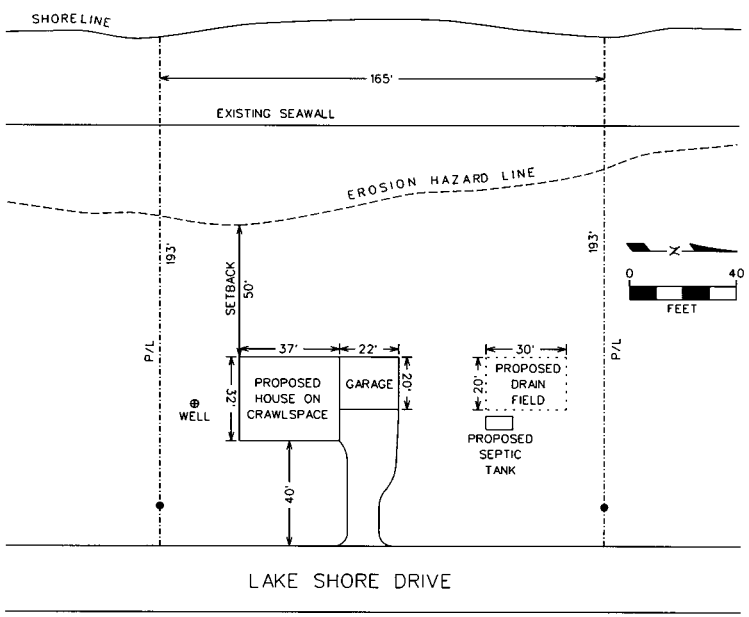
Sample Drawing 18



Complete Sections 10B and Sections 10A, 12, and 21 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ The dredge spoils disposal area location in an upland area above the *100-year floodplain*. If spoils will be disposed of off-site, attach a detailed location. Sediment testing may be required.
- ❑ The location and dimensions of existing or proposed *docks* or *piers*.
- ❑ Show maximum and average dredge dimensions (ft) in both plan and cross-section views. Calculate dredge volume in cubic yards by multiplying average (depth) x (width) x (length) in feet and dividing by 27.
- ❑ Observed water elevation, date of observation, and datum (IGLD 85 or NGVD 29 on Section 10 Waters).
- ❑ *Soil erosion and sedimentation control measures.*

Sample Drawing 19



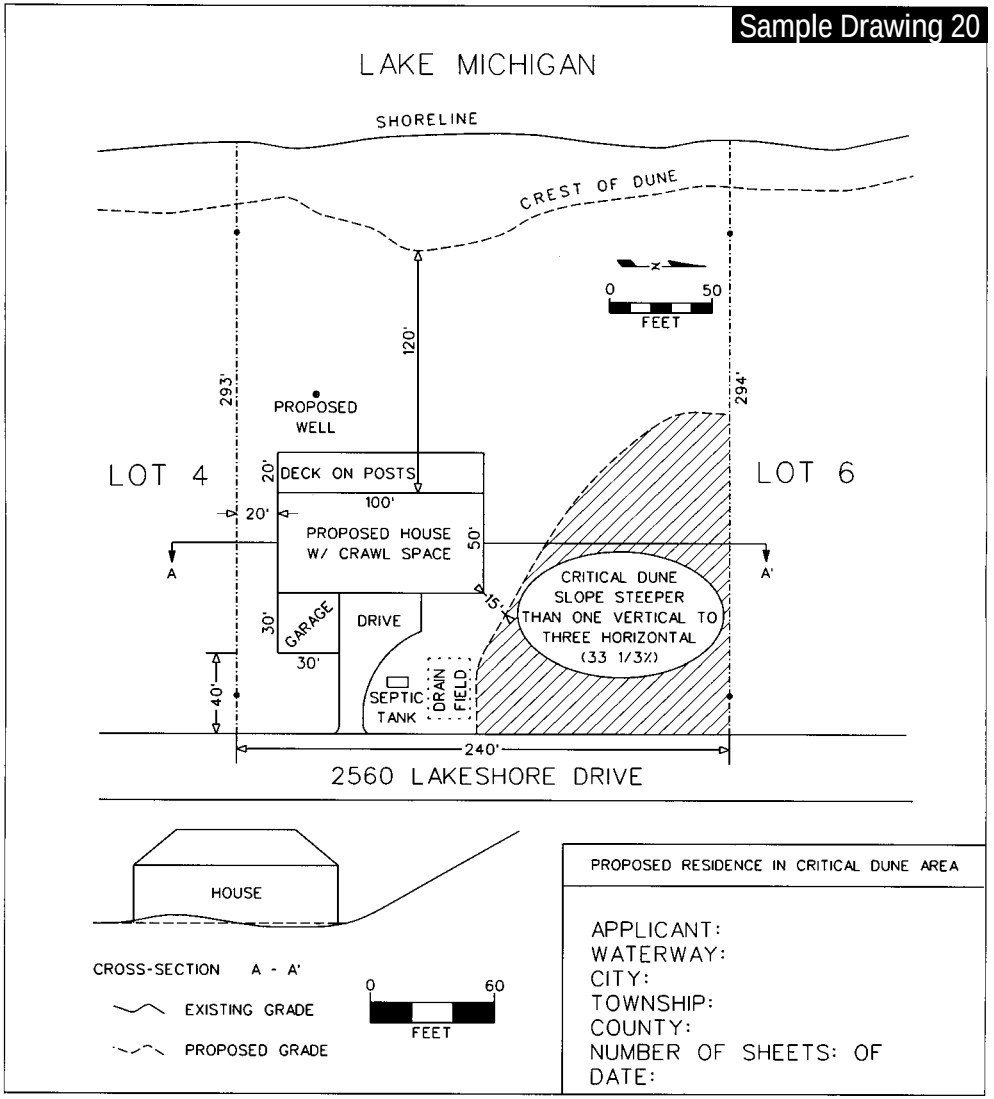
PROPOSED RESIDENCE IN HIGH-RISK EROSION AREA
APPLICANT: WATERWAY: CITY: TOWNSHIP: COUNTY: NUMBER OF SHEETS: OF DATE:

Complete Section 20 and Sections 10A, 10B, 10C, and 10D if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, location of water well, and property boundaries.
- ❑ Dimensions for all existing and proposed buildings, septic systems, and driveways.
- ❑ Applicable required *setback* dimensions (minimum distance (ft) from *erosion hazard line* to existing or proposed buildings or construction activities).
- ❑ Location and dimensions of proposed grading.
- ❑ Reference Sample Drawing 9 for required information if your proposed activities will impact a wetland.
- ❑ *Soil erosion and sedimentation control measures*.

Photographs are optional, but may assist staff in processing your application more quickly.

Sample Drawing 20



PROPOSED RESIDENCE IN CRITICAL DUNE AREA
APPLICANT: WATERWAY: CITY: TOWNSHIP: COUNTY: NUMBER OF SHEETS: OF DATE:

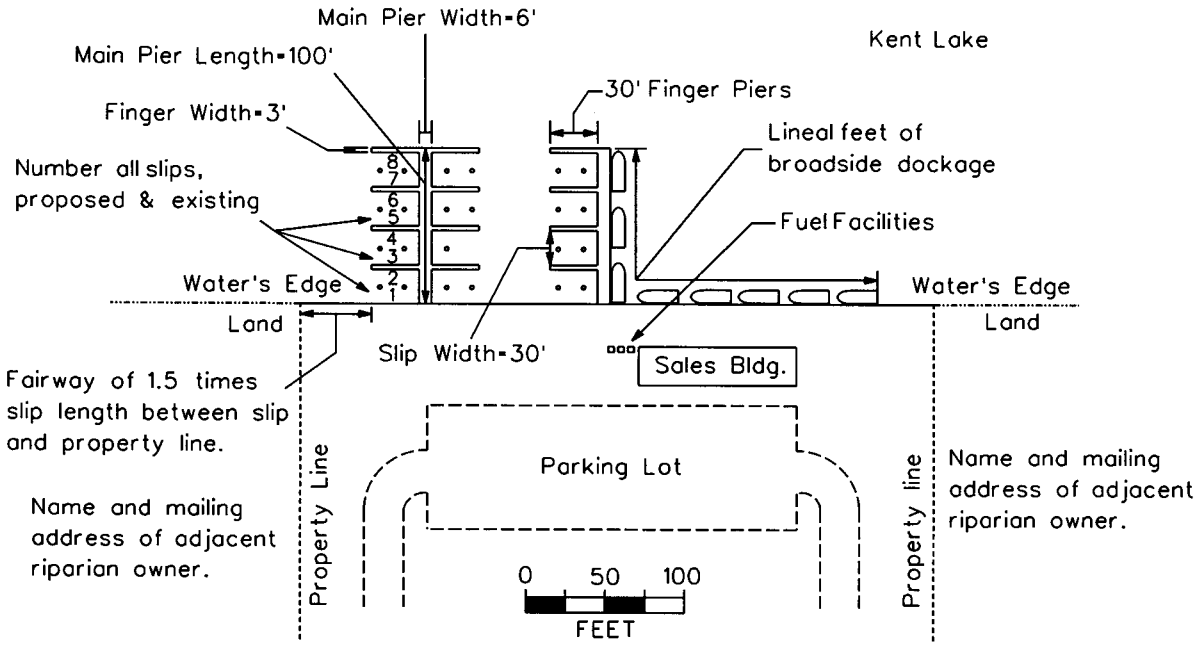
Complete Section 20 and Sections 10A, 10B, 10C, 10D, 12, and 21 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, location of water well, and property boundaries.
- ❑ Identify areas where slopes are between 25 and 33 percent and greater than 33 percent.
- ❑ Dimensions for all existing and proposed buildings, septic systems, and driveways.
- ❑ Minimum distance (ft) from crest of dune to proposed or existing buildings or construction activity (ft).
- ❑ Location and dimensions of areas where tree and other vegetation will be removed.
- ❑ Location and dimensions of proposed grading.
- ❑ Reference Sample Drawing 9 for required information if your proposed activities will impact a wetland.
- ❑ *Soil erosion and sedimentation control measures.*

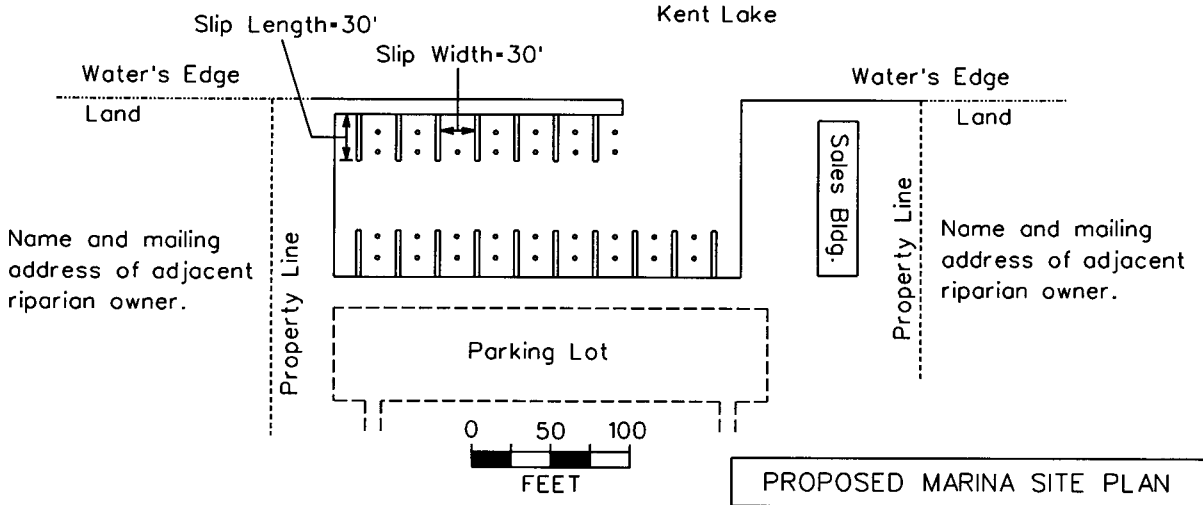
Photographs are optional, but may assist staff in processing your application more quickly.

Sample Drawing 21

MARINA SITE PLAN #1



MARINA SITE PLAN #2



Please include actual dimensions for all distances as shown in examples.

Do not include slip or dock length as lineal feet of broadside dockage.

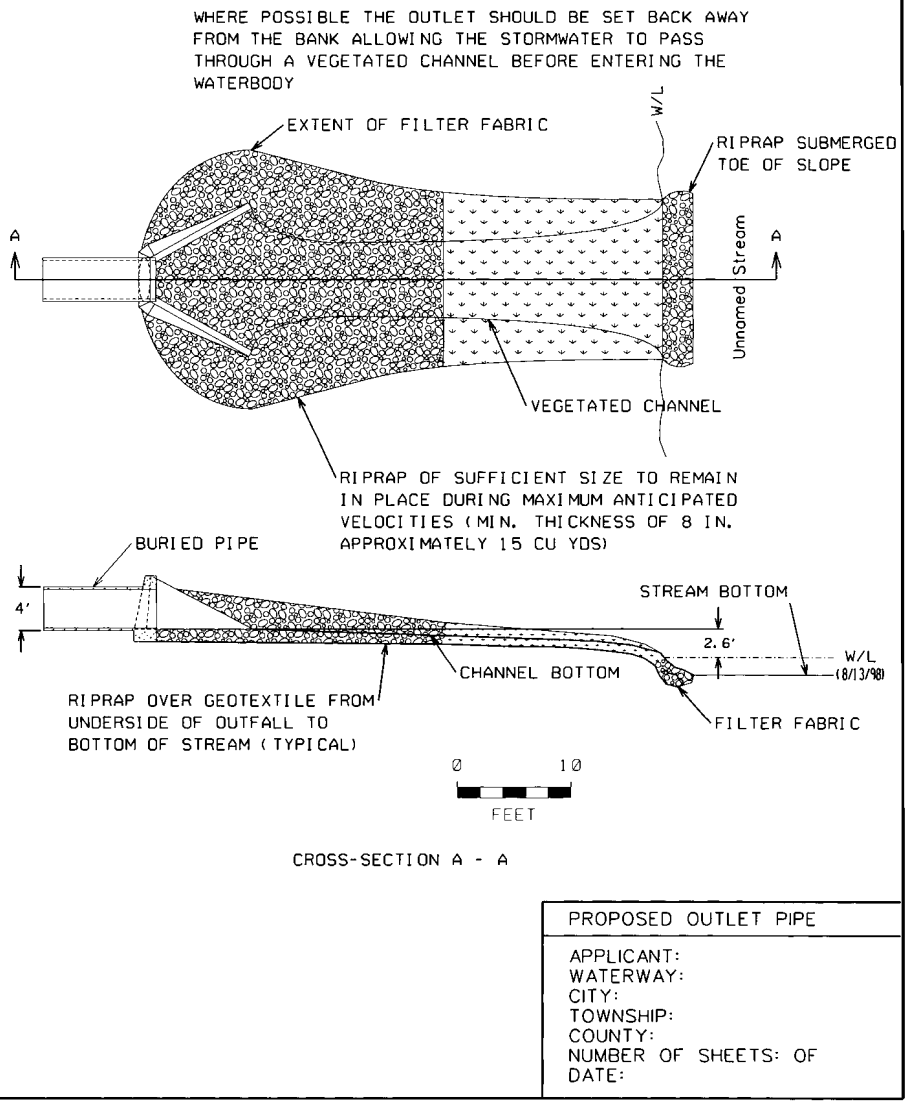
PROPOSED MARINA SITE PLAN

APPLICANT:
WATERWAY:
CITY:
TOWNSHIP:
COUNTY:
NUMBER OF SHEETS: OF
DATE:

Complete Section 19 and Sections 10, 12, and 21 if applicable to your project.
Provide ***plan view*** and ***cross-section*** site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, *floodplains*, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ *Soil erosion and sedimentation control measures.*
- ❑ Site specific proposed dimensions for all distances shown in Sample Drawings 10 and 21 if applicable to your project.
- ❑ Site specific information and dimensions shown on Sample Drawing 7 if dredging activity is proposed.
- ❑ Highest known and observed water elevations (ft) and dates of observations.
- ❑ Datum used (IGLD 85, NGVD 29, or local) and a description of the reference point or benchmark.

Sample Drawing 22

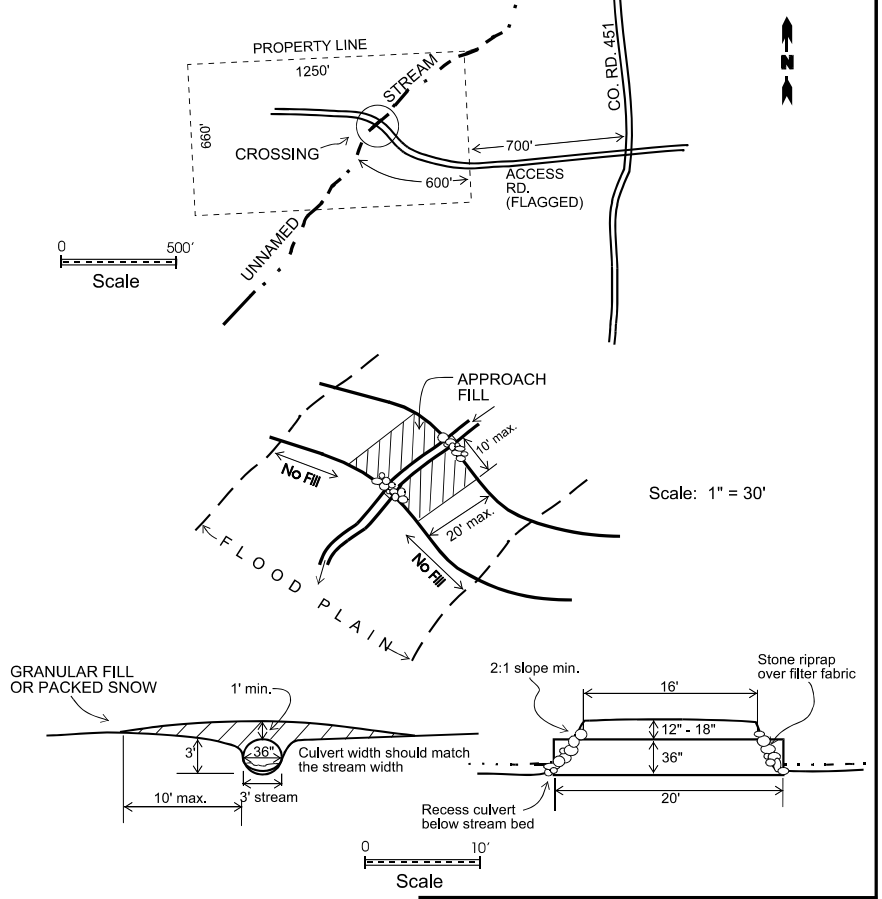


PROPOSED OUTLET PIPE
APPLICANT: WATERWAY: CITY: TOWNSHIP: COUNTY: NUMBER OF SHEETS: OF DATE:

Complete Section 10I and Sections 10A, 10B, 10C, 12, 13, and 15 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

- ❑ Overall site plan showing existing lakes, streams, wetlands, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ *Soil erosion and sedimentation control measures.*
- ❑ Datum used (NGVD 29, IGLD 85, or local) and a description of the reference point or benchmark.
- ❑ *100-year floodplain* elevation (if known).
- ❑ Highest known and observed water elevations (ft) above or below reference point and dates of observations.
- ❑ Include number of pipes, pipe diameters, and pipe invert elevations.
- ❑ If on *Section 10 Waters,* provide pipe invert elevation in IGLD 85 or NGVD 29.

Sample Drawing 23



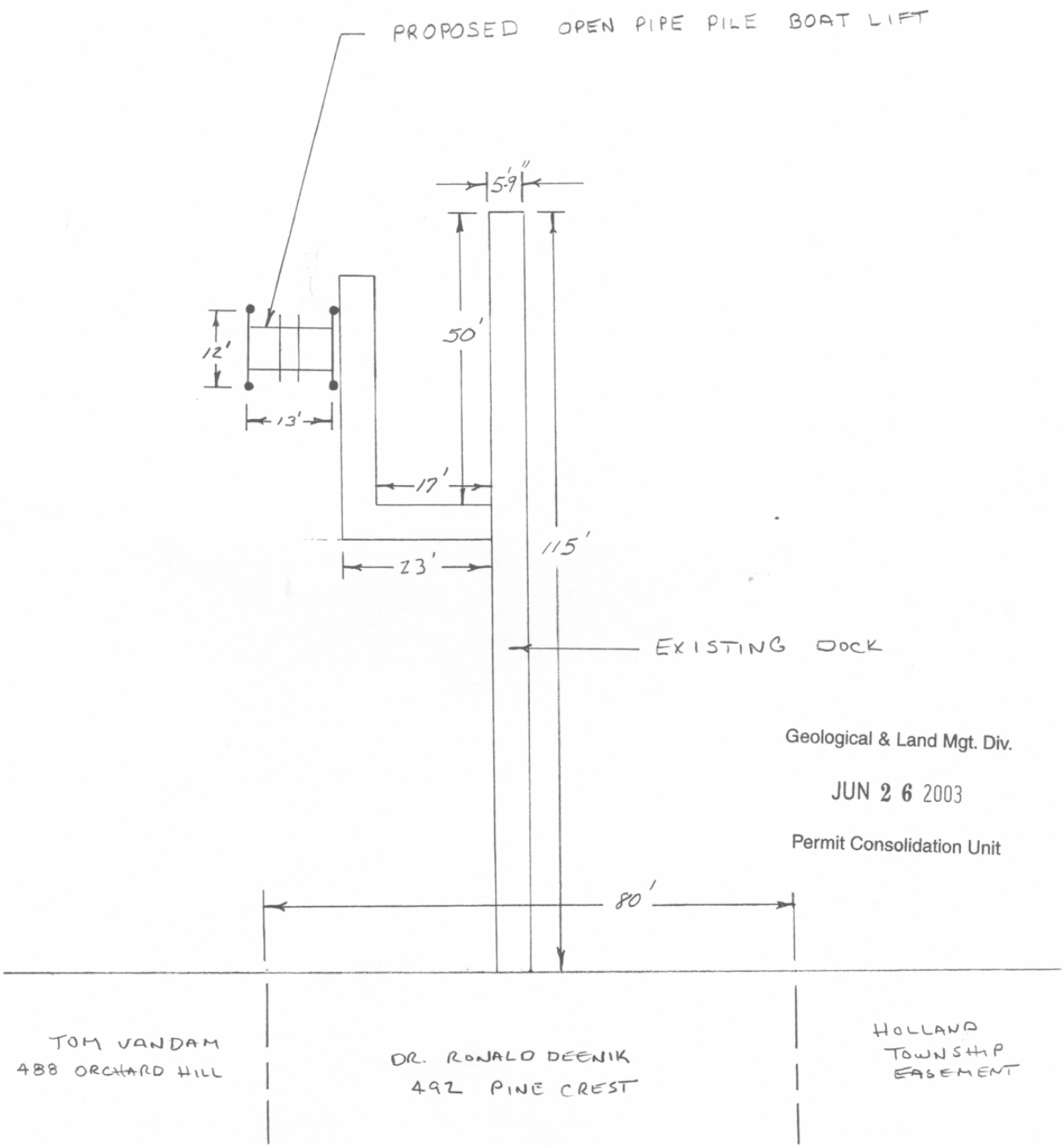
PROPOSED TEMPORARY LOGGING ROAD CROSSING
APPLICANT: WATERWAY: CITY/TOWNSHIP: COUNTY: NUMBER OF SHEETS: ___ OF ___ DATE:

Complete Section 14 and Sections 10A, 10B, 10C, 12, 13, and 15 if applicable to your project.
Provide *plan view* and *cross-section* site-specific drawings adequate for detailed review, include:

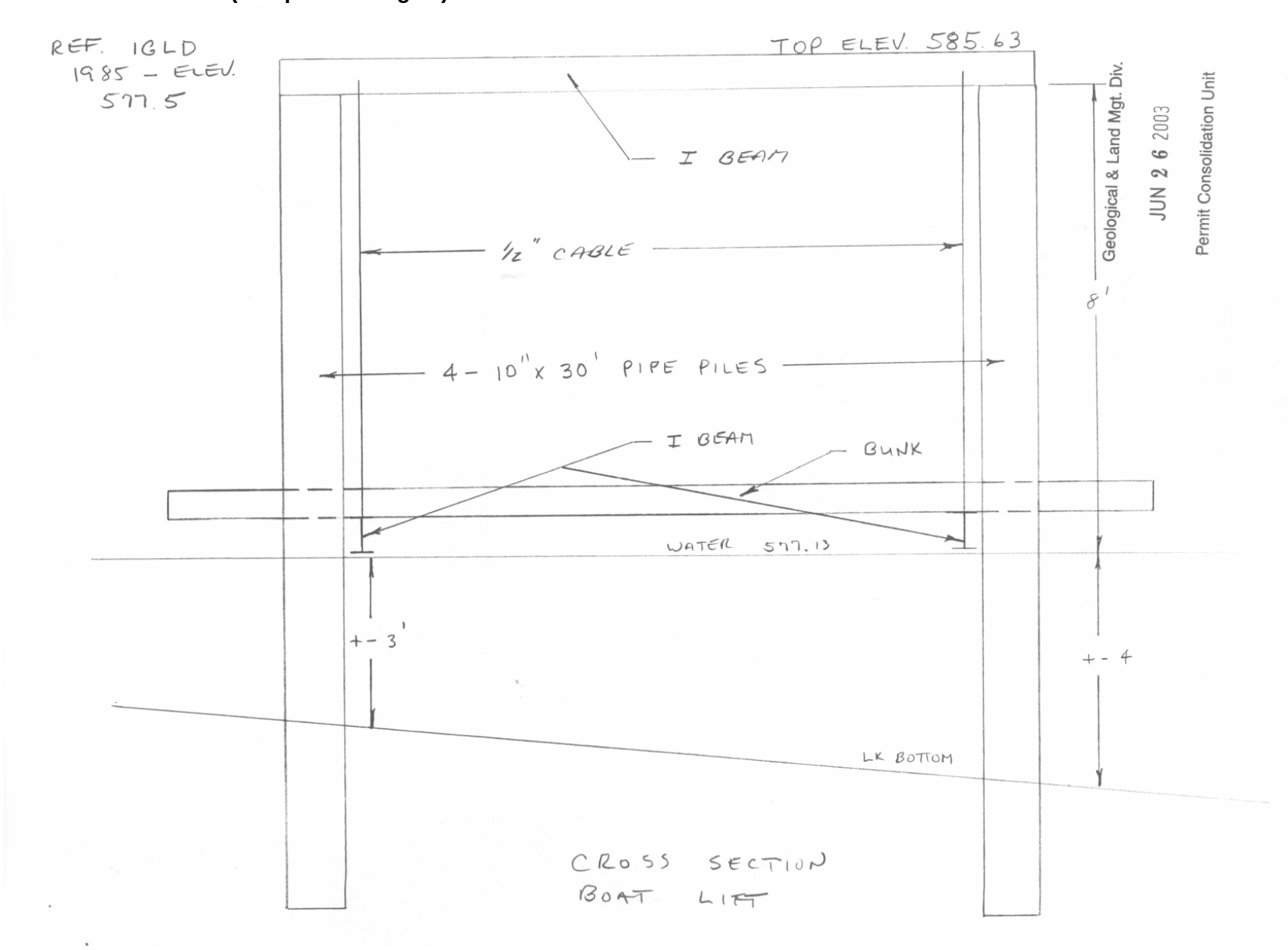
- ❑ Overall site plan showing existing lakes, streams, wetlands, and other water features.
- ❑ Name of waterbodies, property boundaries, and neighboring property owner information.
- ❑ *Soil erosion and sedimentation control measures.*
- ❑ Datum used (NGVD 29, IGLD 85, or local).
- ❑ Description of reference point and highest known water elevation (ft) above or below reference point and date of observation.
- ❑ 100-year *floodplain* elevation (if known).
- ❑ Site specific information shown in Sample Drawing 14D (Stream Profile View).

BOAT LIFT

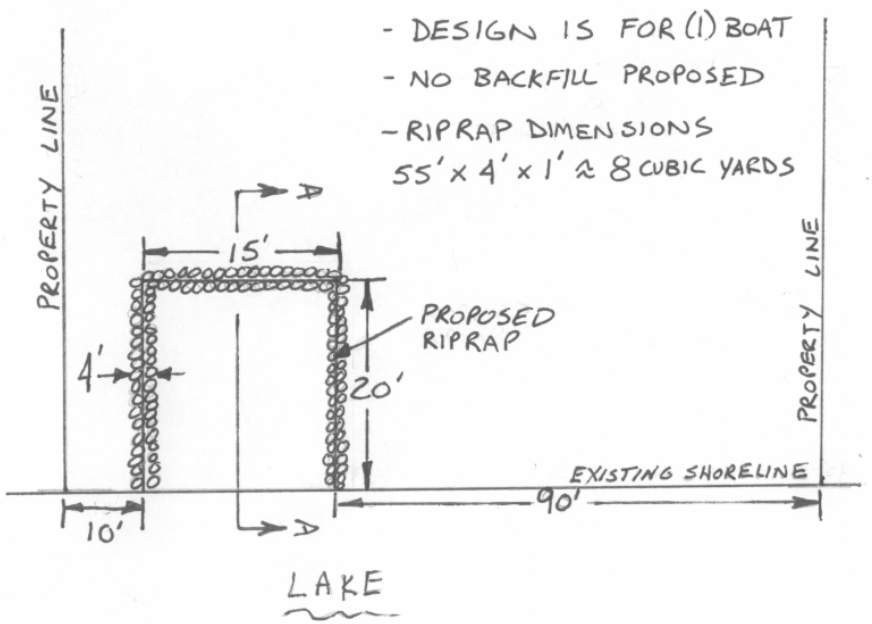
Sample Drawing 24

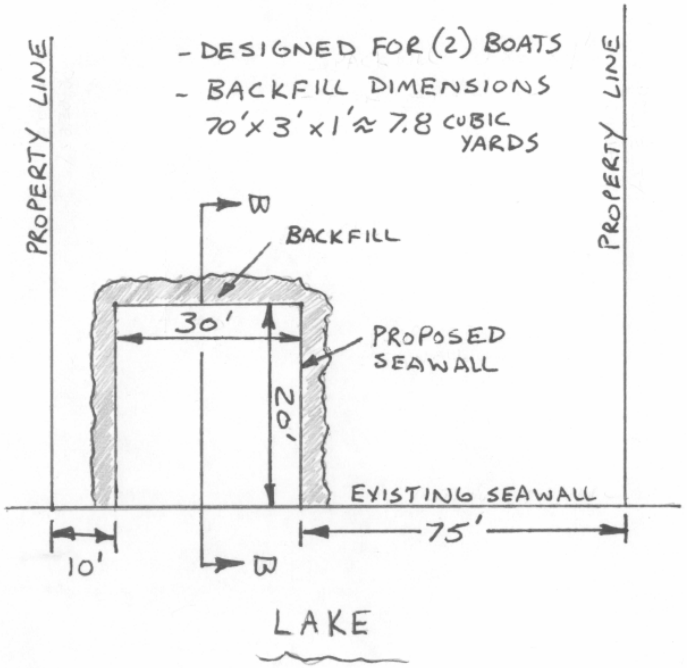


BOAT LIFT SECTION (Sample Drawing 25)

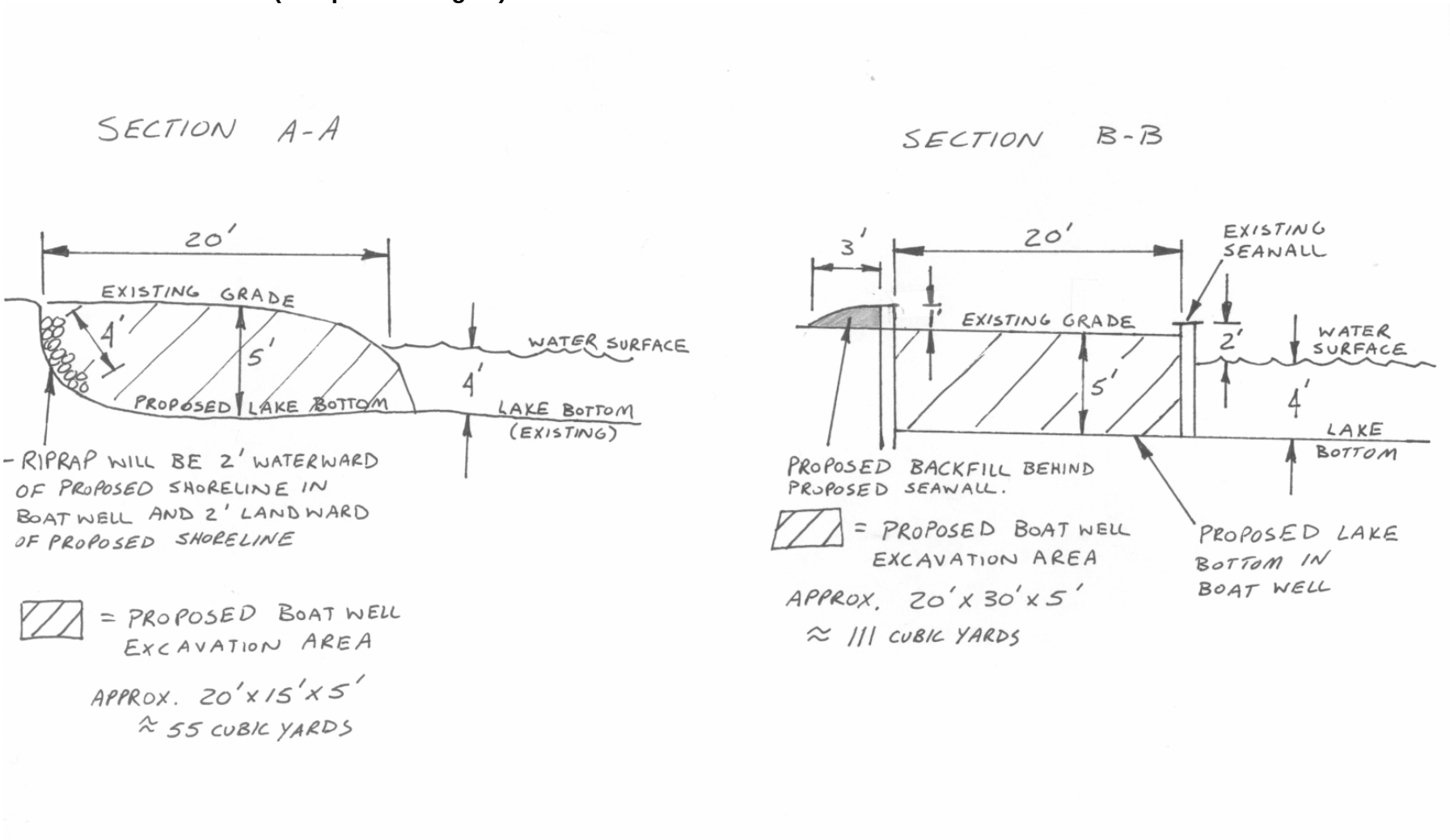


BOAT WELL PLAN (Sample Drawing 26)



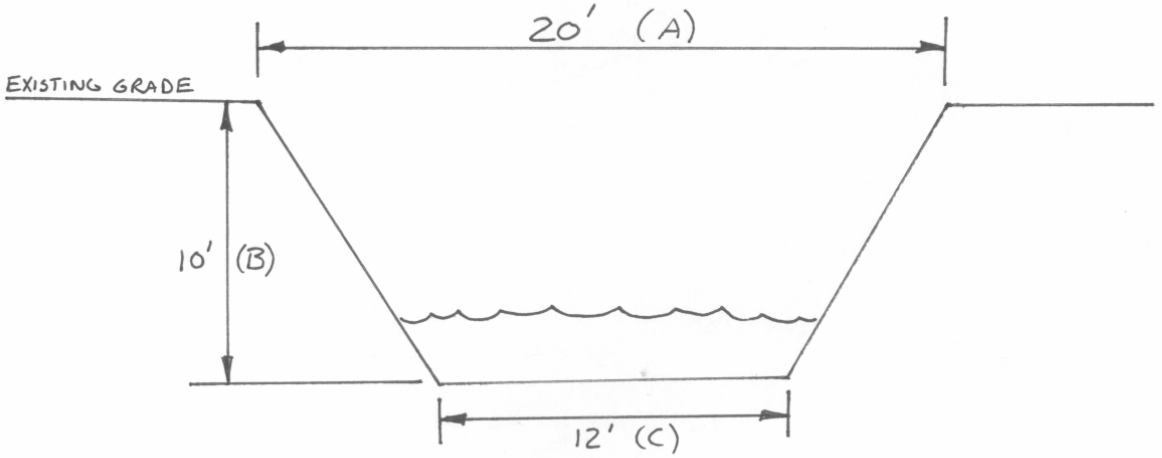


BOAT WELL SECTIONS (Sample Drawing 27)



CROSS SECTIONAL AREA (Sample Drawing 28)

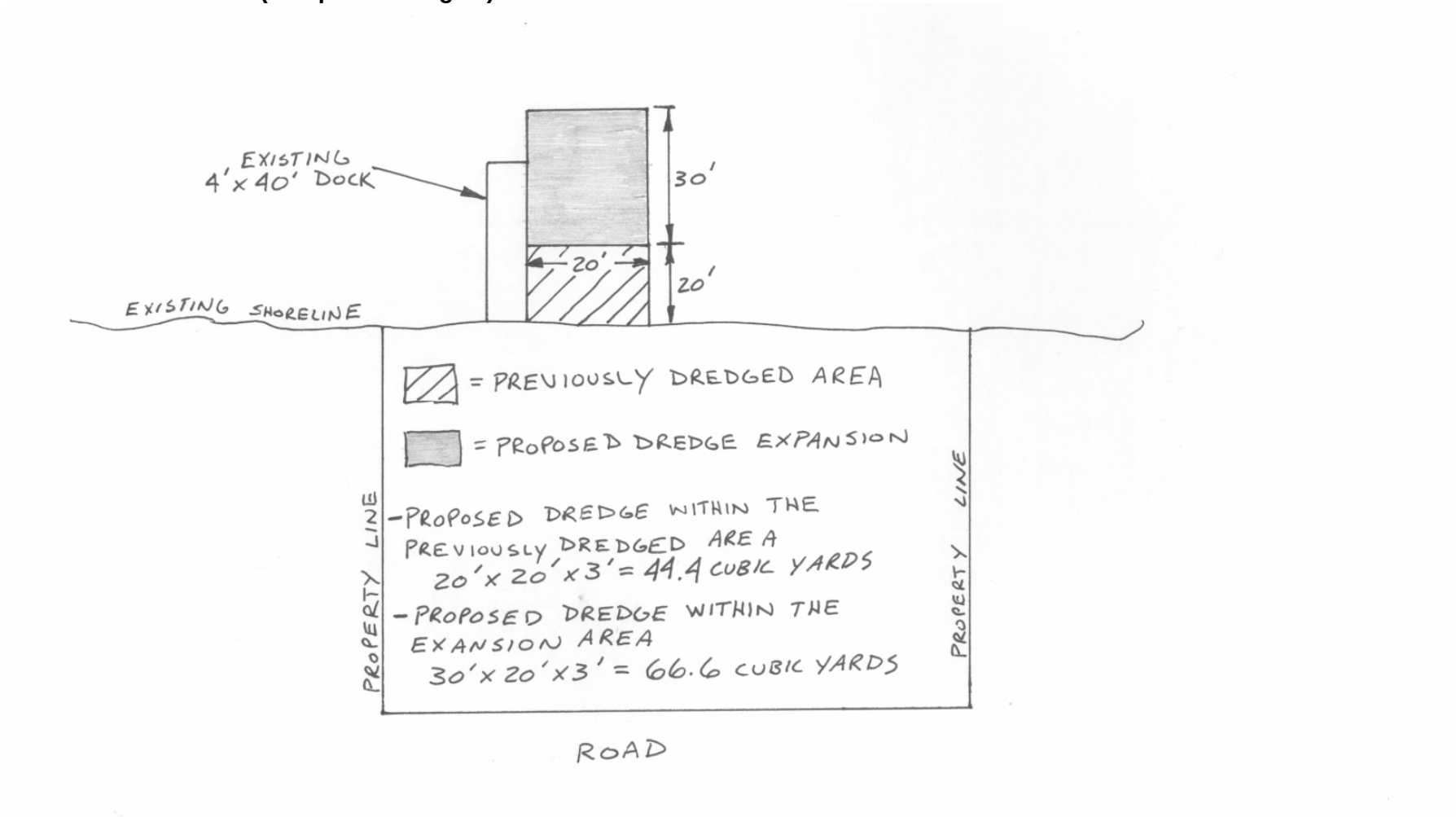
- PRIMARY CHANNEL WIDTH FROM TOP OF BANK TO TOP OF BANK = 20'
- BANK HEIGHT = 10'
- BOTTOM OF CHANNEL WIDTH = 12'



$$\text{CROSS SECTIONAL AREA} = \left(\frac{A+C}{2}\right) \times B$$

$$\text{CROSS SECTIONAL AREA} = \left(\frac{20'+12'}{2}\right) \times 10' = 160 \text{ SQUARE FEET}$$

DREDGE EXPANSION (Sample Drawing 29)

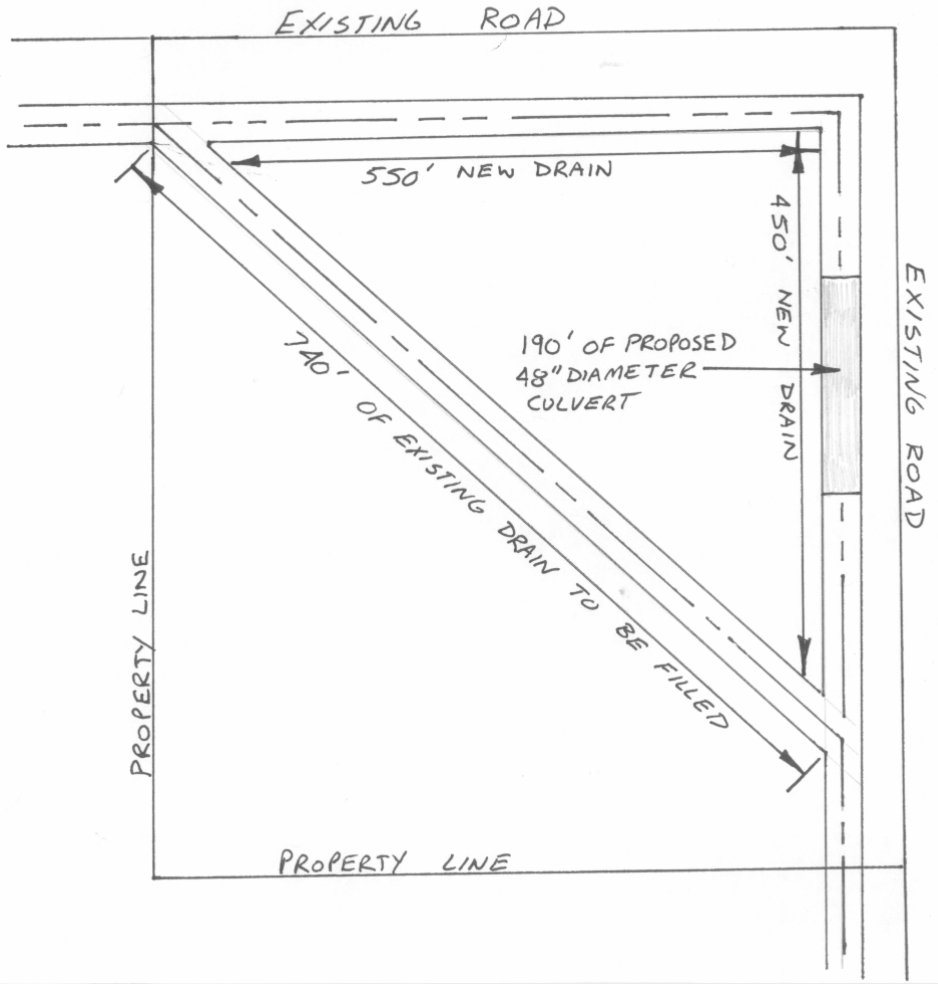


DRAIN RELOCATION ENCLOSURE (Sample Drawing 30)

= EXISTING DRAIN

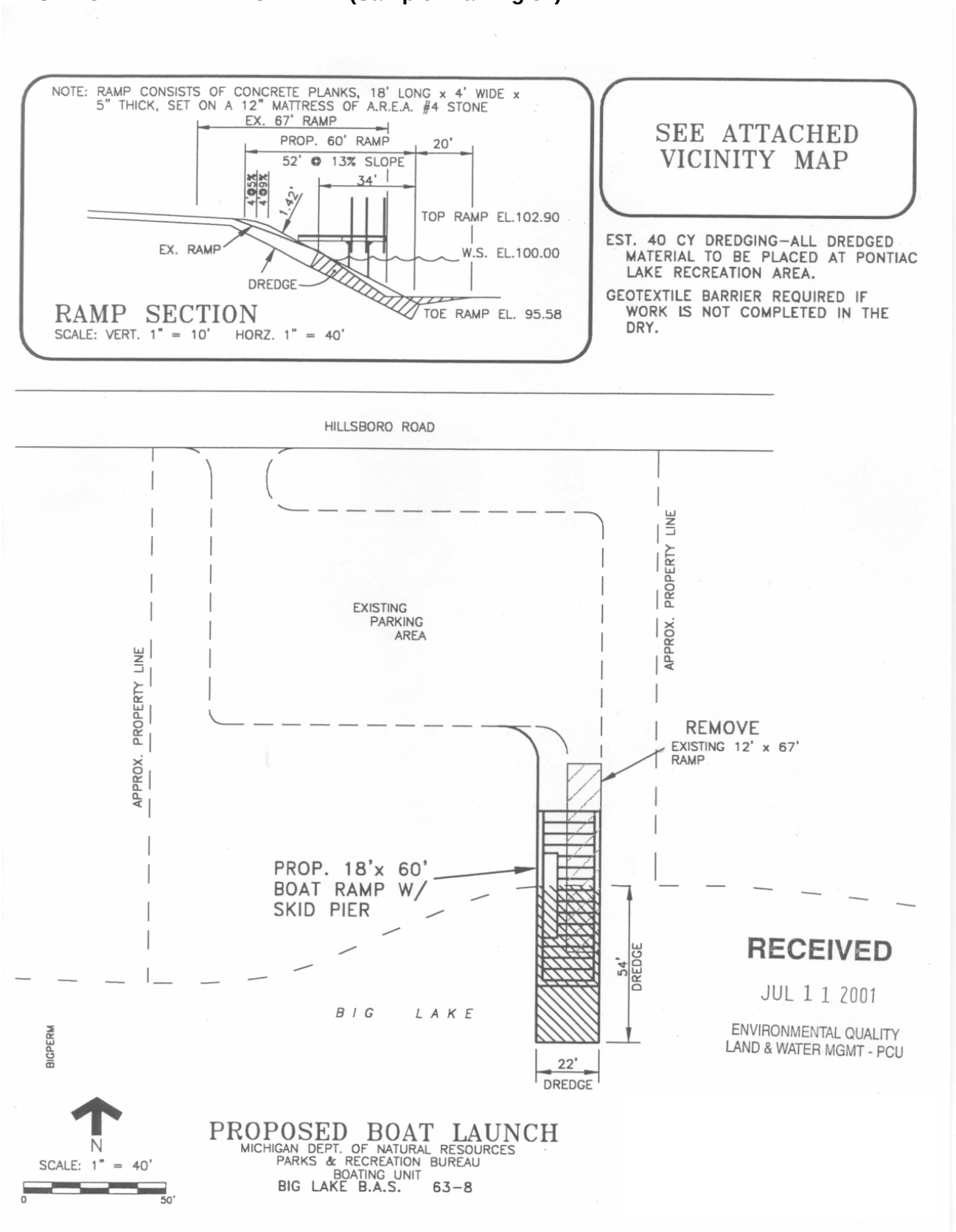
= PROPOSED NEW DRAIN

DRAIN RELOCATION / OLD DRAINS / NEW DRAINS / ENCLOSURES

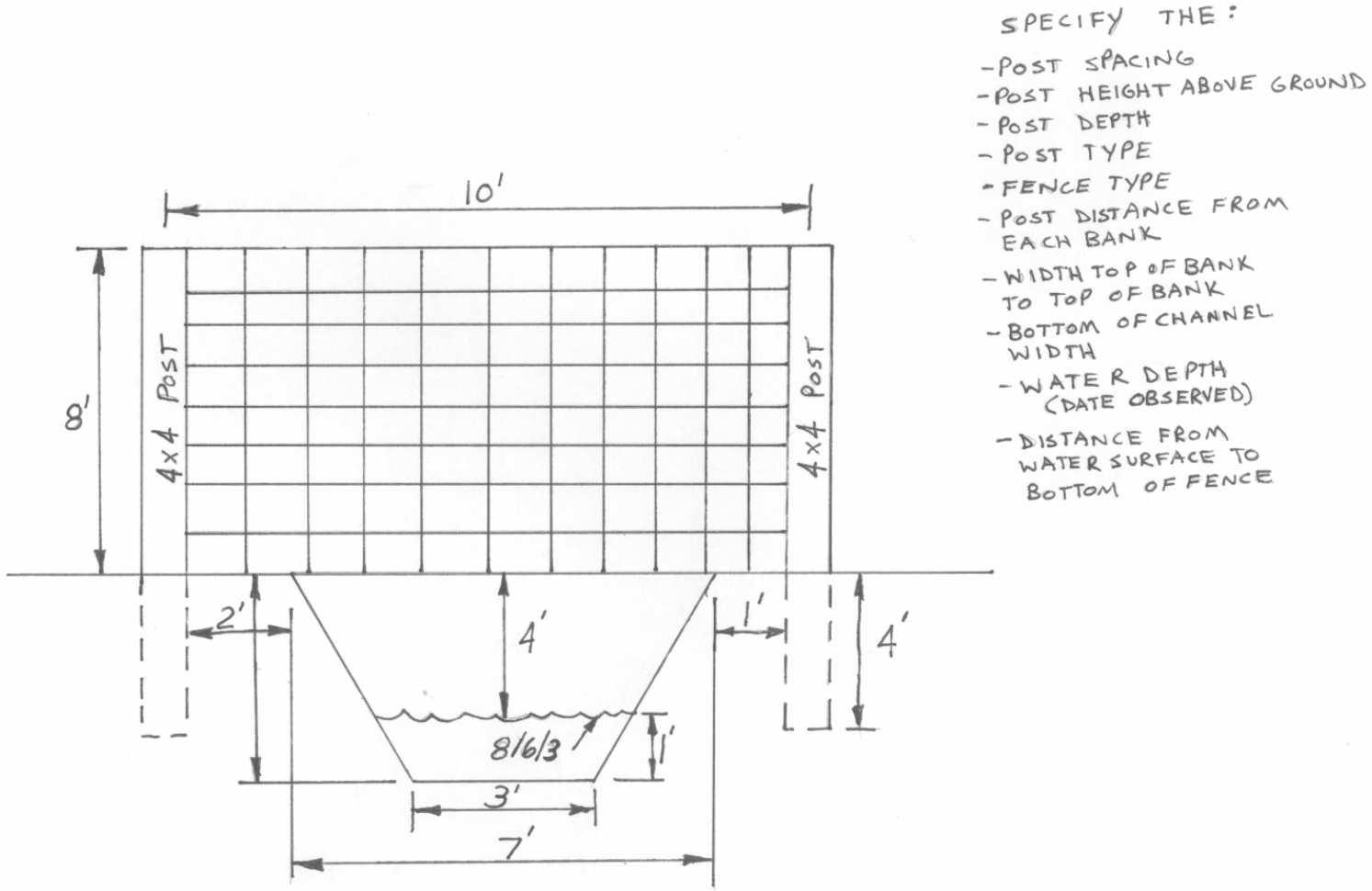


PROPOSE TO RELOCATE 740' OF EXISTING DRAIN THROUGH 1000' OF NEW DRAIN. NEW DRAIN WILL INCLUDE 190' OF DRAIN ENCLOSURE. OLD DRAIN IS TO BE ABANDONED AND FILLED

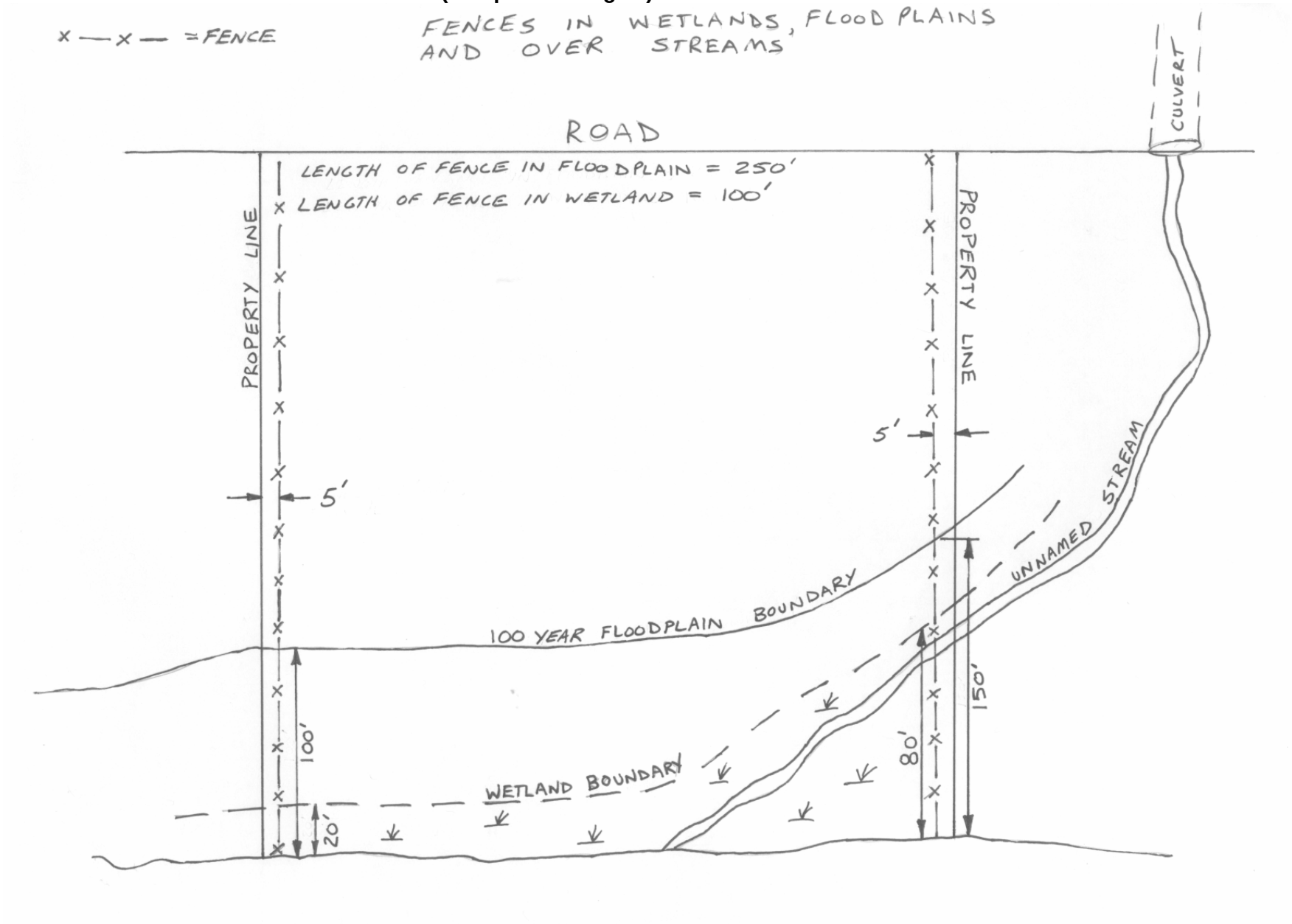
EXISTING RAMP REPLACEMENT (Sample Drawing 31)



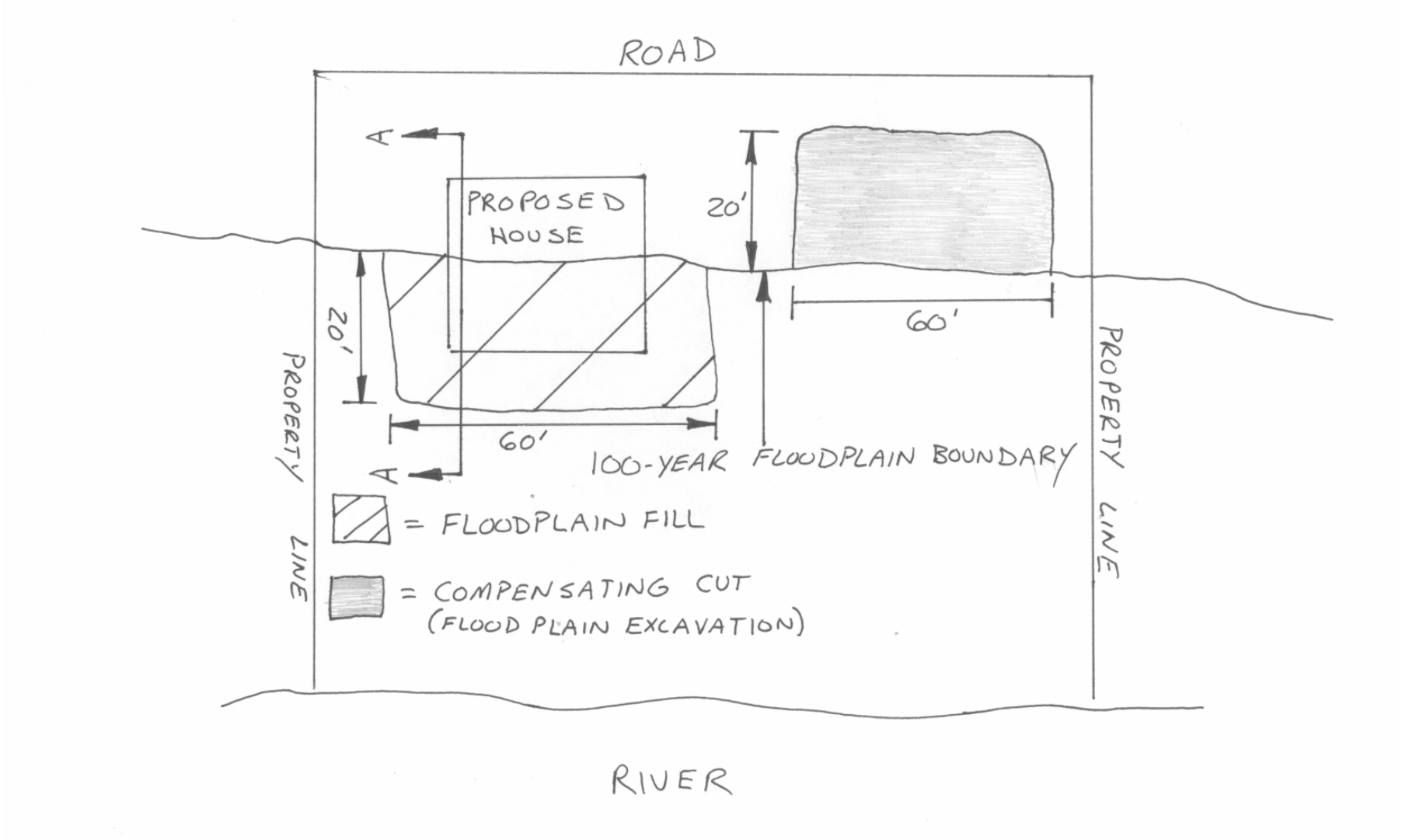
FENCE CROSSING STREAM (Sample Drawing 32)



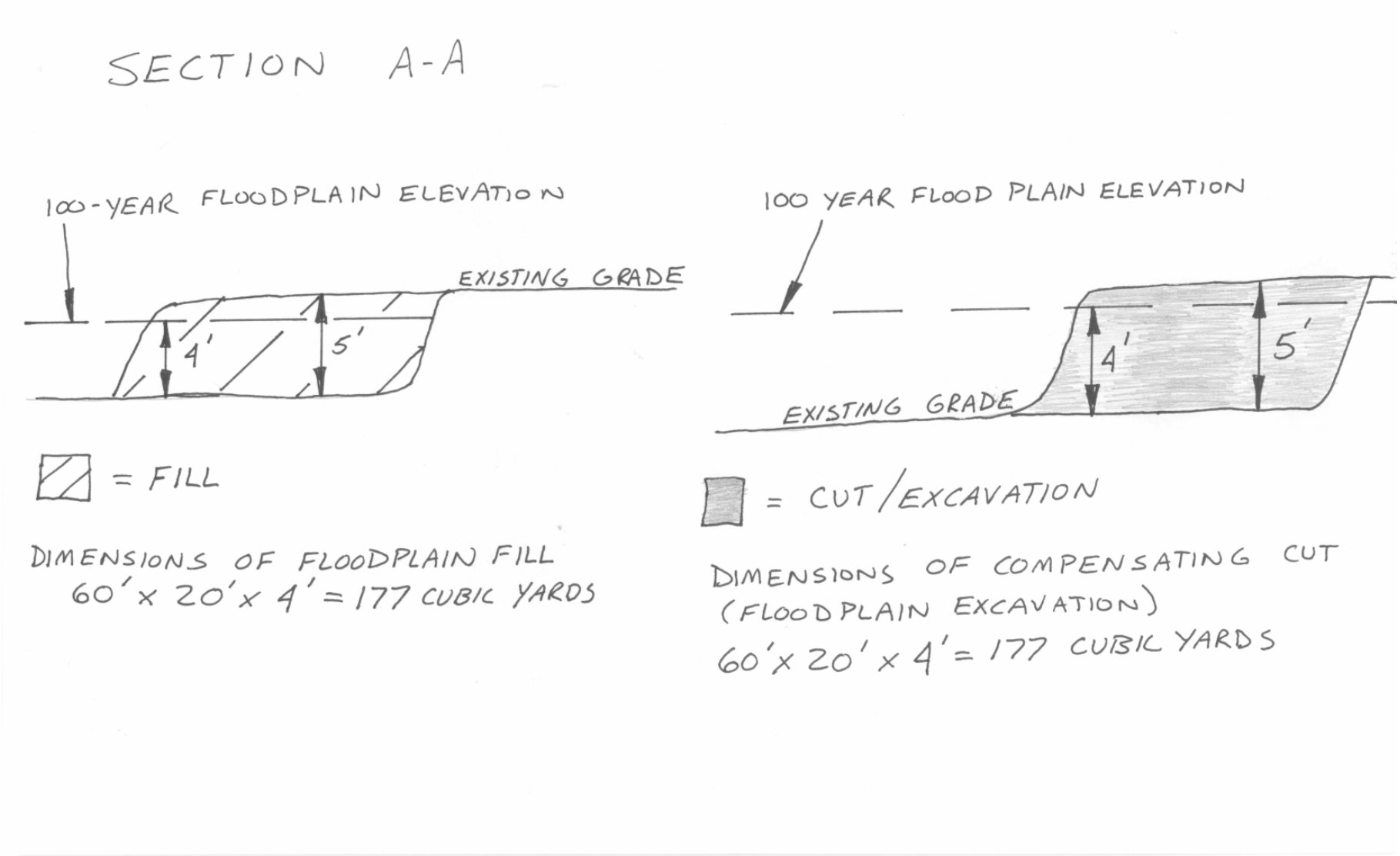
FENCE WETLAND FLOODPLAIN STREAM (Sample Drawing 33)



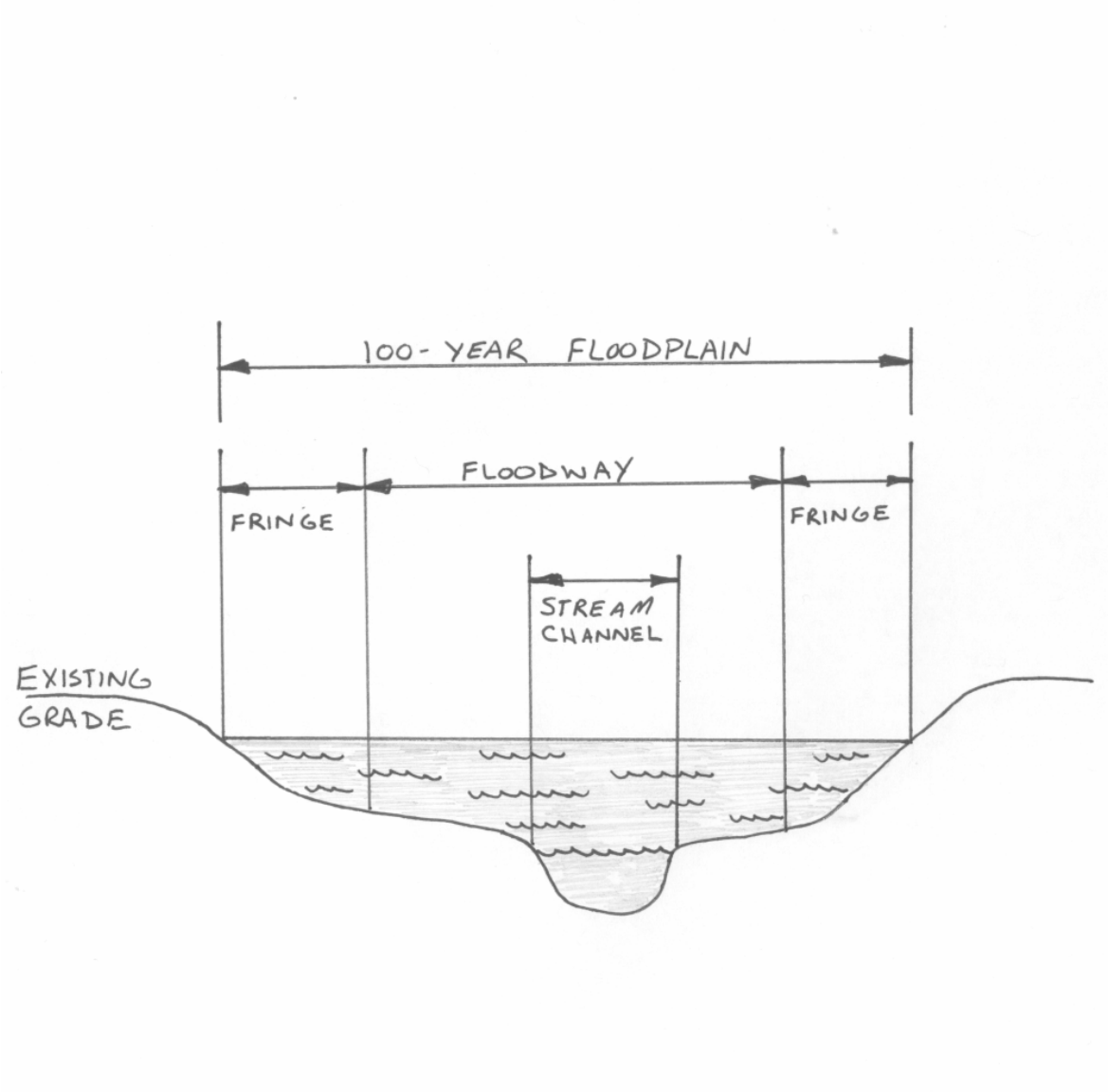
FLOODPLAIN CUT FILL PLAN (Sample Drawing 34)



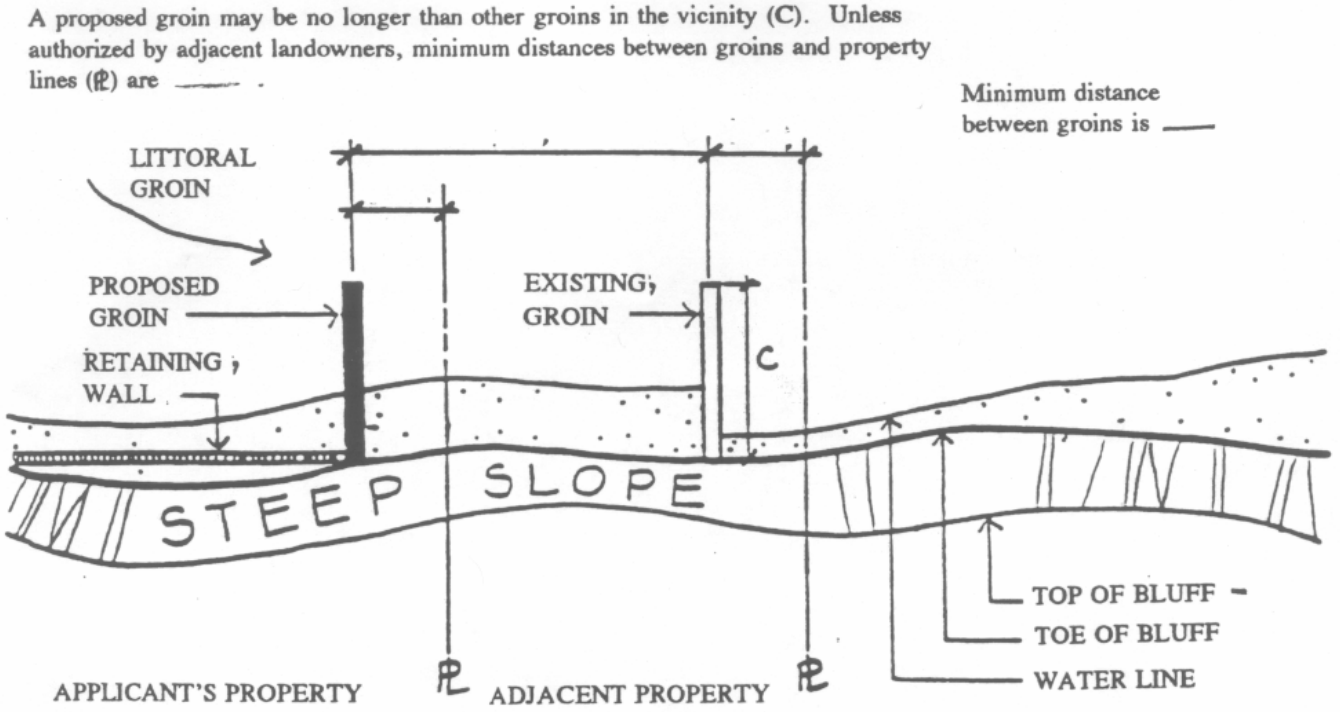
FLOOD PLAIN CUT FILL SECTION (Sample Drawing 35)



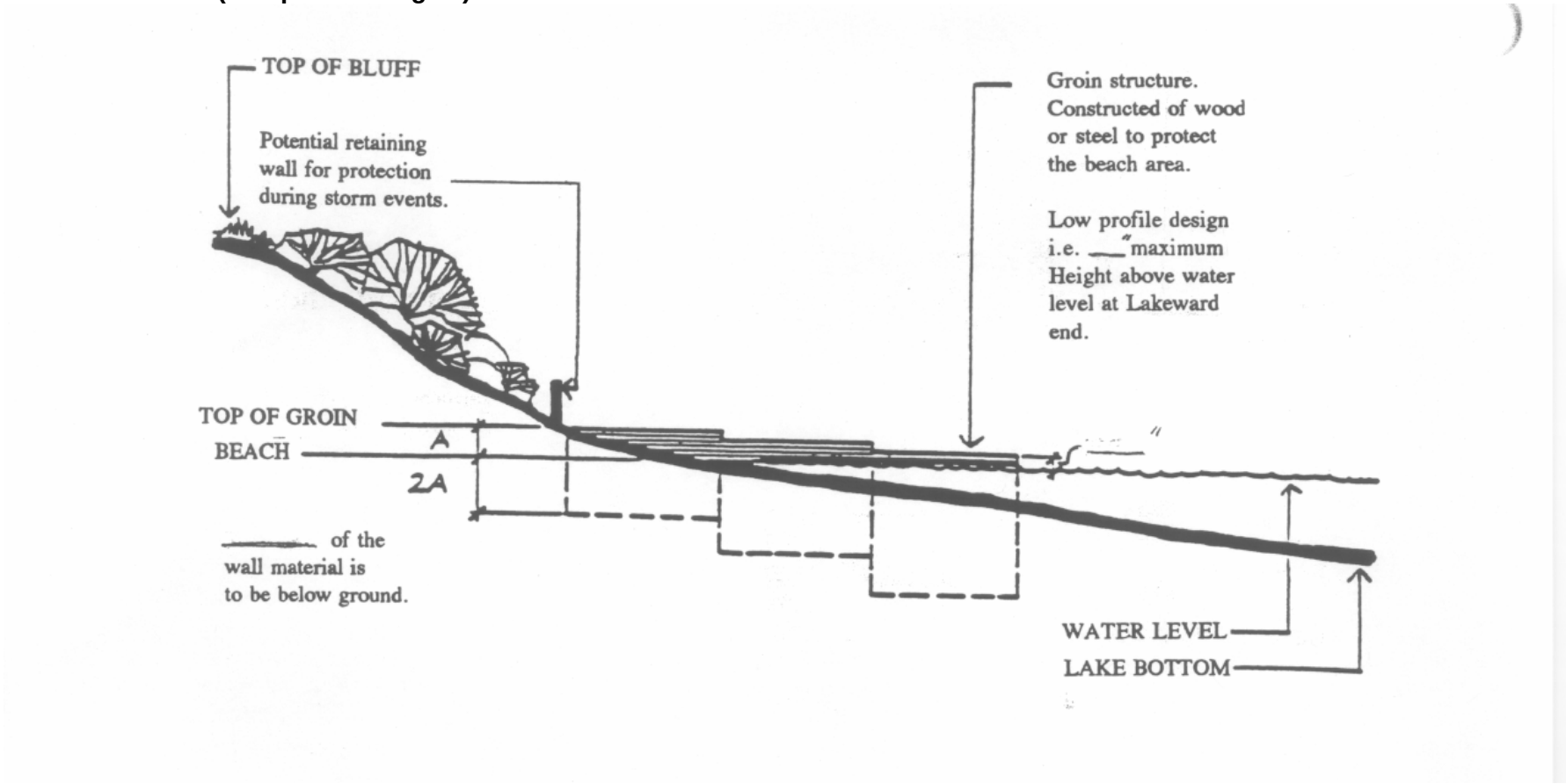
FLOODPLAIN DEMARCATION (Sample Drawing 36)



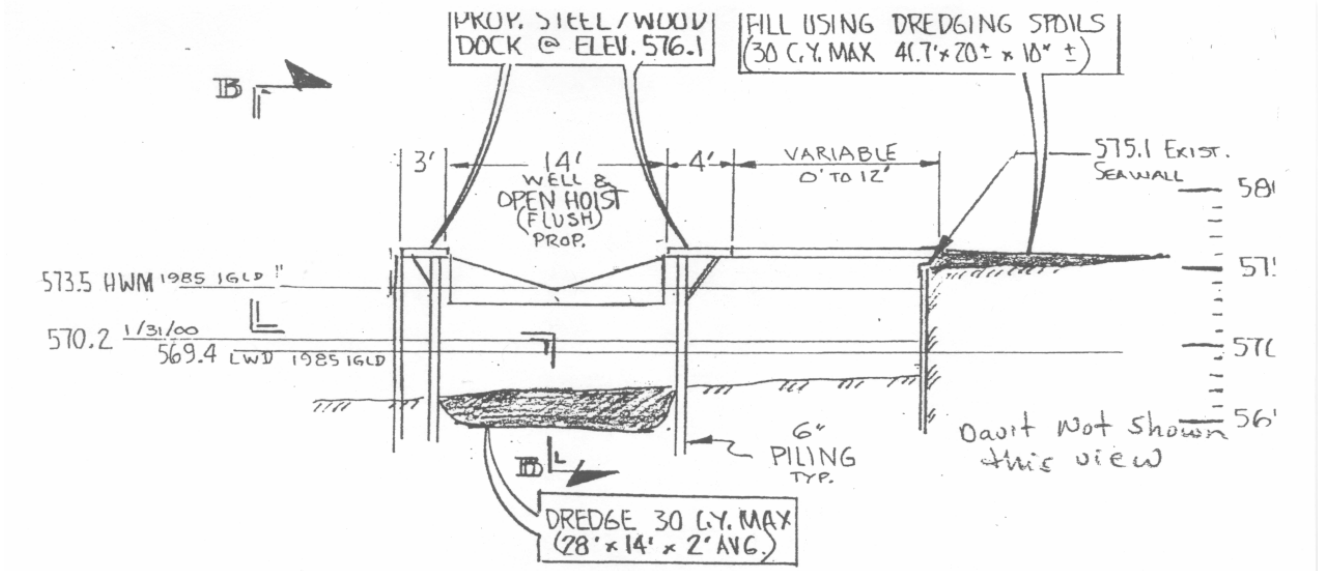
GROIN PLAN (Sample Drawing 37)



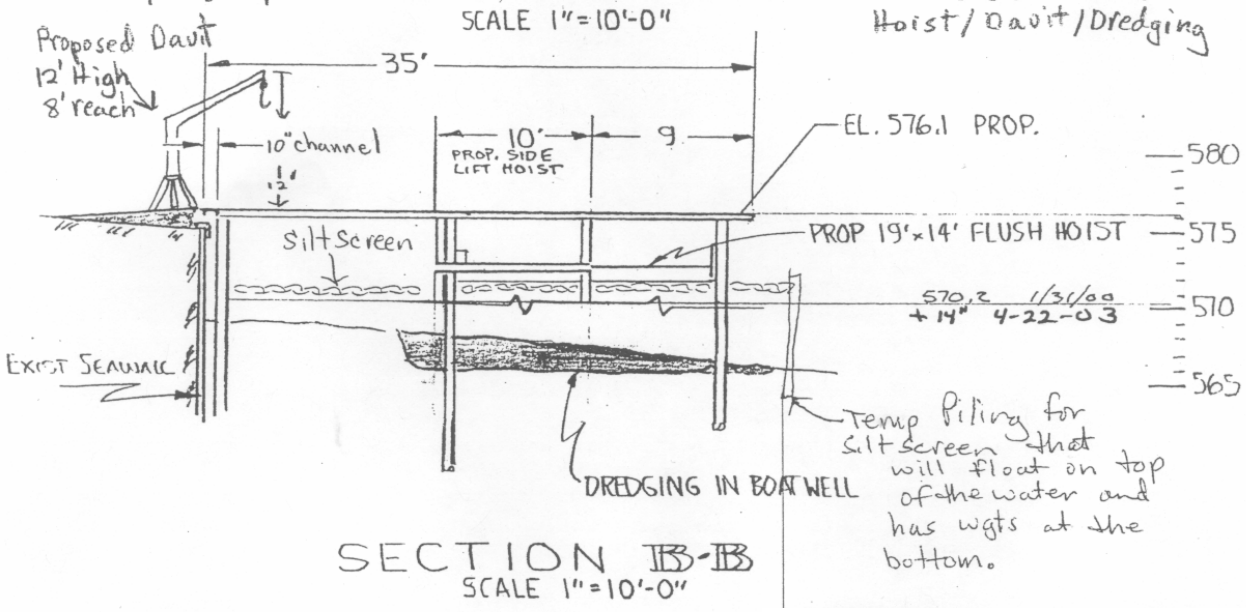
GROIN SECTION (Sample Drawing 38)



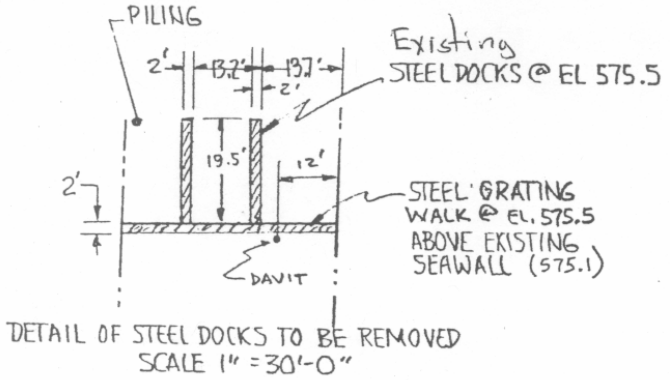
HOIST AND DAVIT (Sample Drawing 39)



SECTION A-A Sideview Dock/ Hoist/ Davit/ Dredging
SCALE 1"=10'-0"

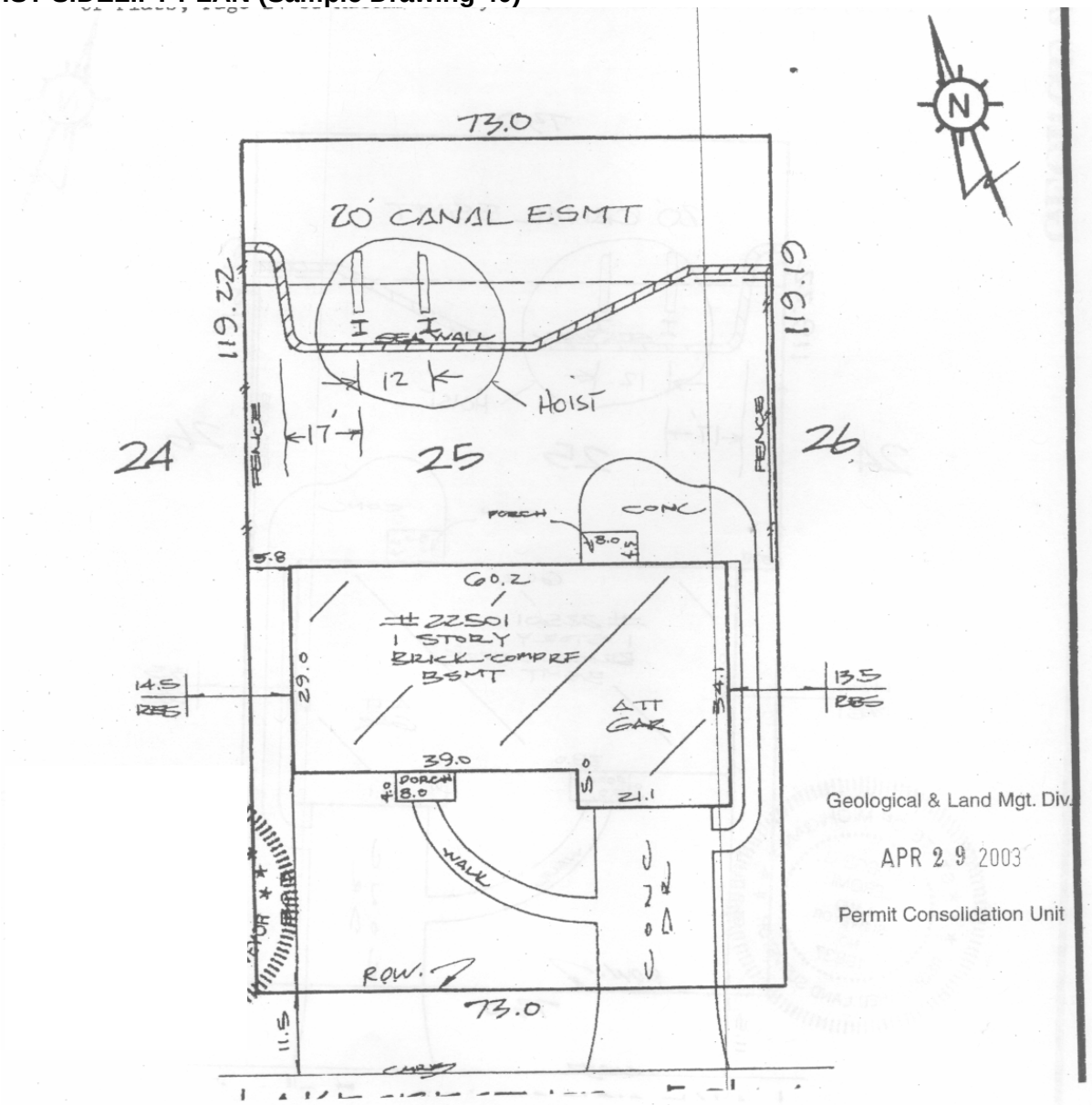


SECTION B-B
SCALE 1"=10'-0"

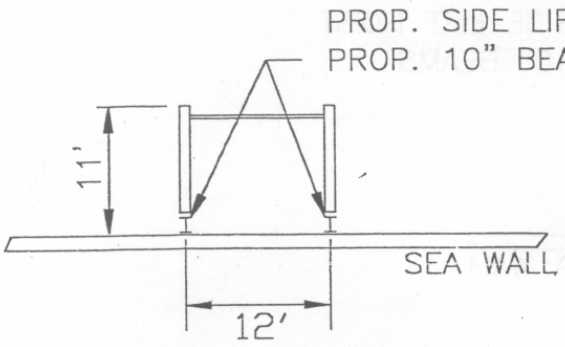


DETAIL OF STEEL DOCKS TO BE REMOVED
SCALE 1" = 30'-0"

HOIST SIDELIFT PLAN (Sample Drawing 40)



HOIST AND SIDELIFT SECTION (Sample Drawing 41)



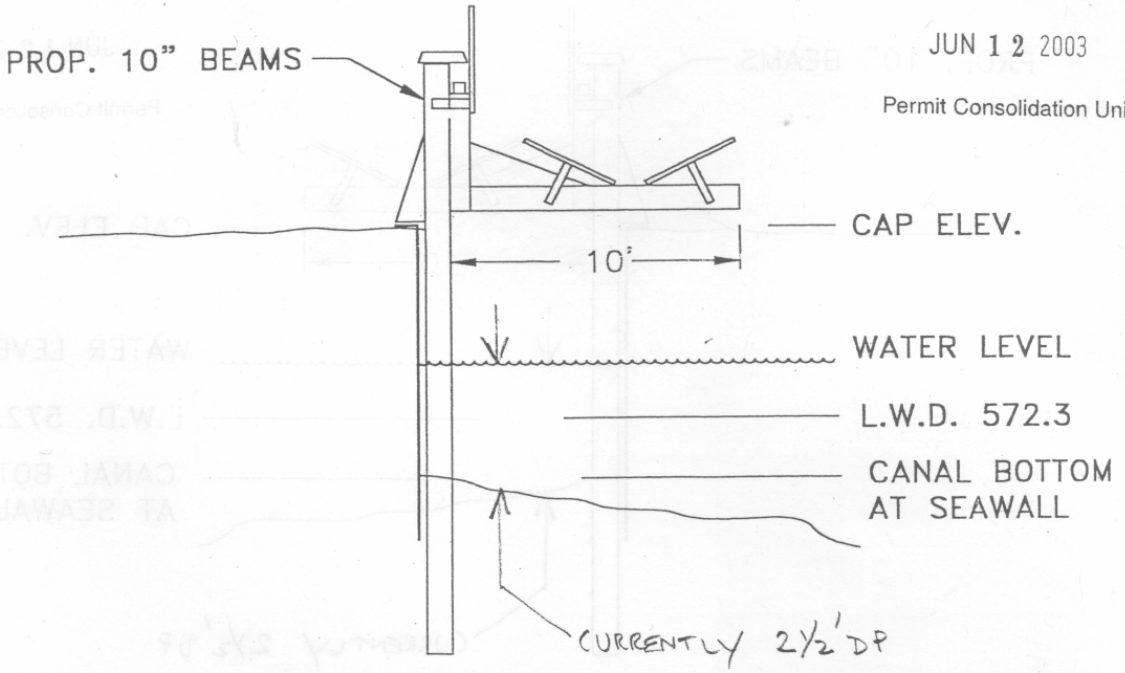
PLAN VIEW

NUMBER: 03-010-023-0 03-50-76
DECKER-HOIST
BY: Gerald Decker
Lake St. Clair, St. Clair Shores
MACOMB County, MICHIGAN
SHEET 3 OF 3

Geological & Land Mgt. Div.

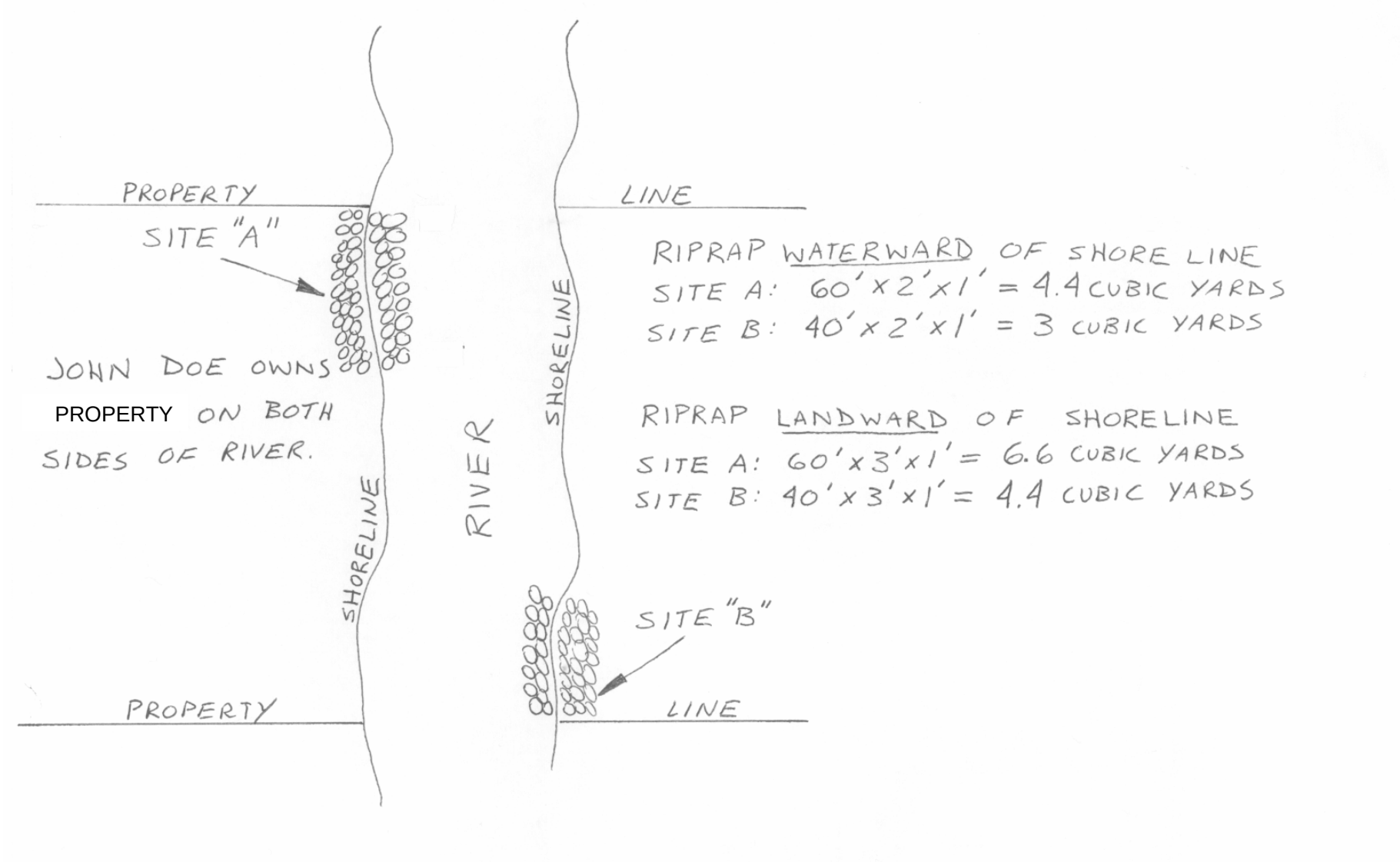
JUN 12 2003

Permit Consolidation Unit

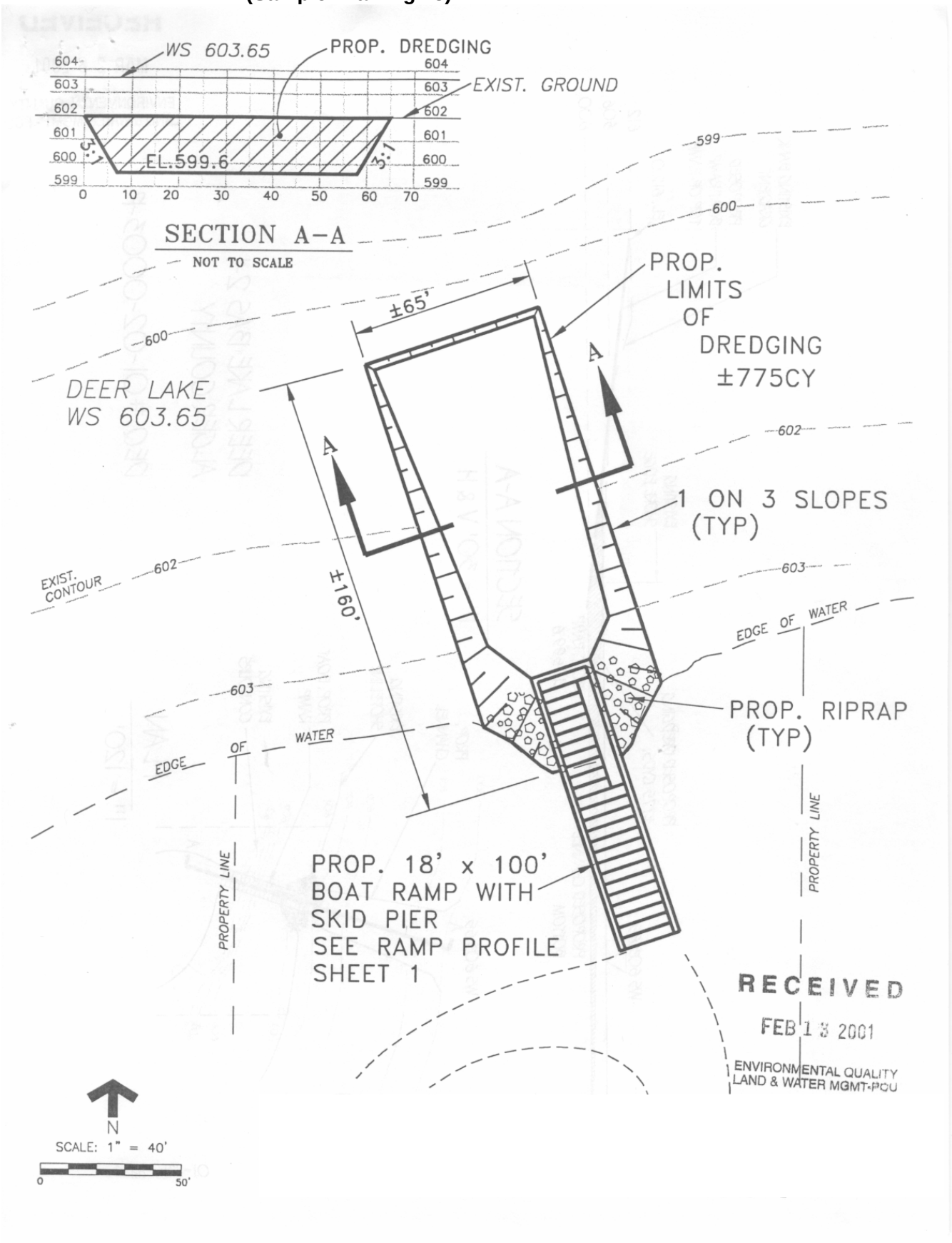


SIDE VIEW

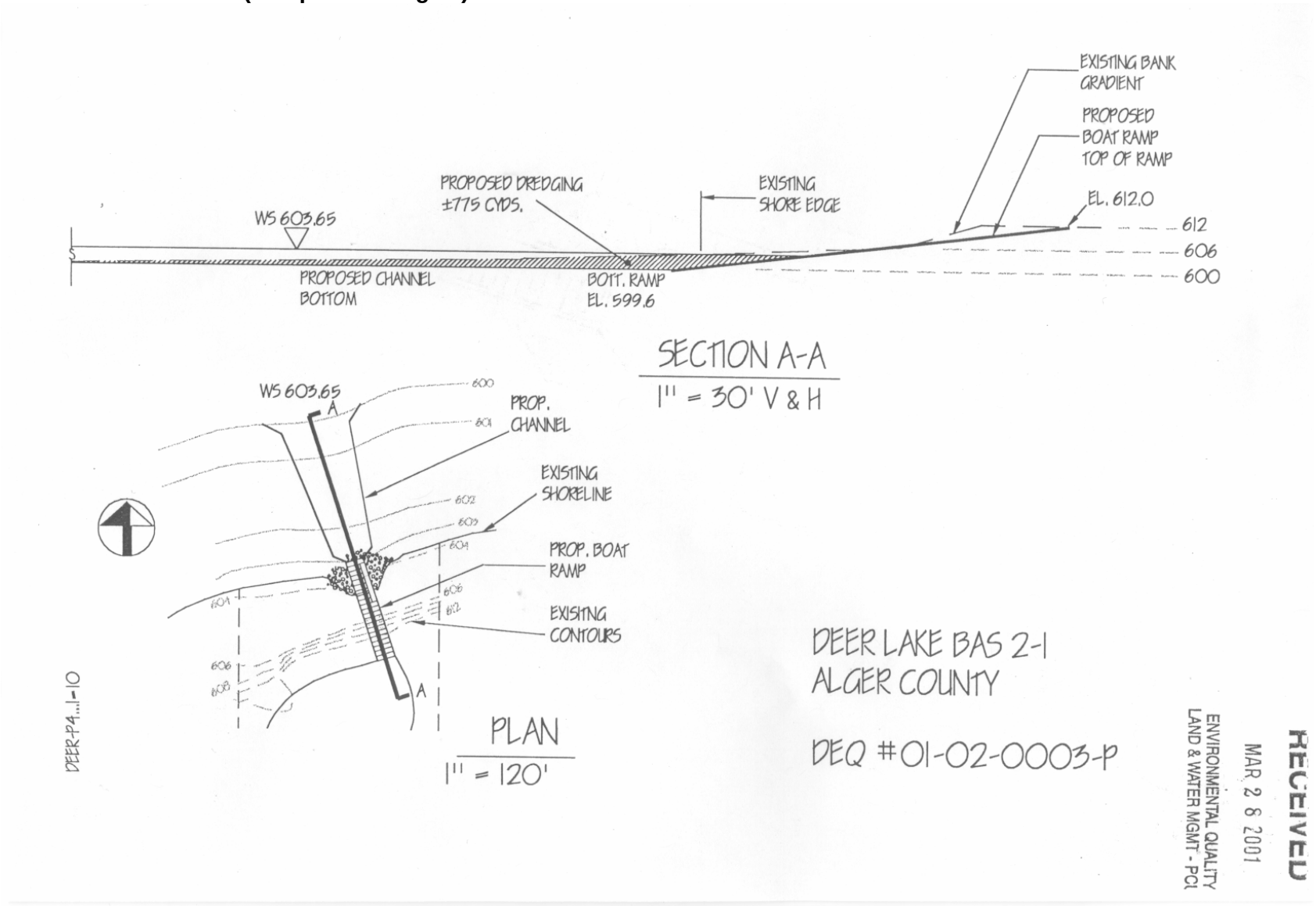
MULTIPLE RIPRAP AREAS (Sample Drawing 42)



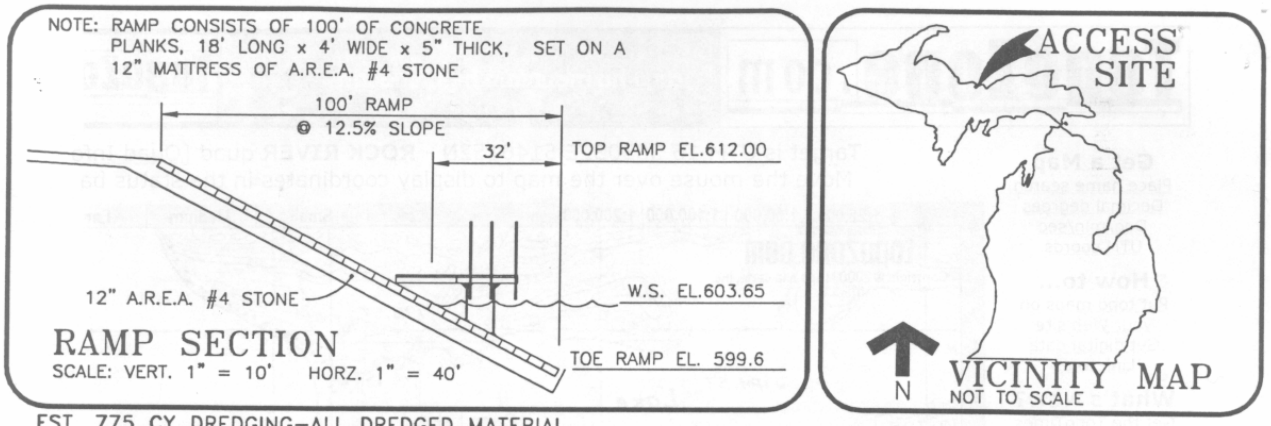
NEW RAMP PLAN VIEW (Sample Drawing 43)



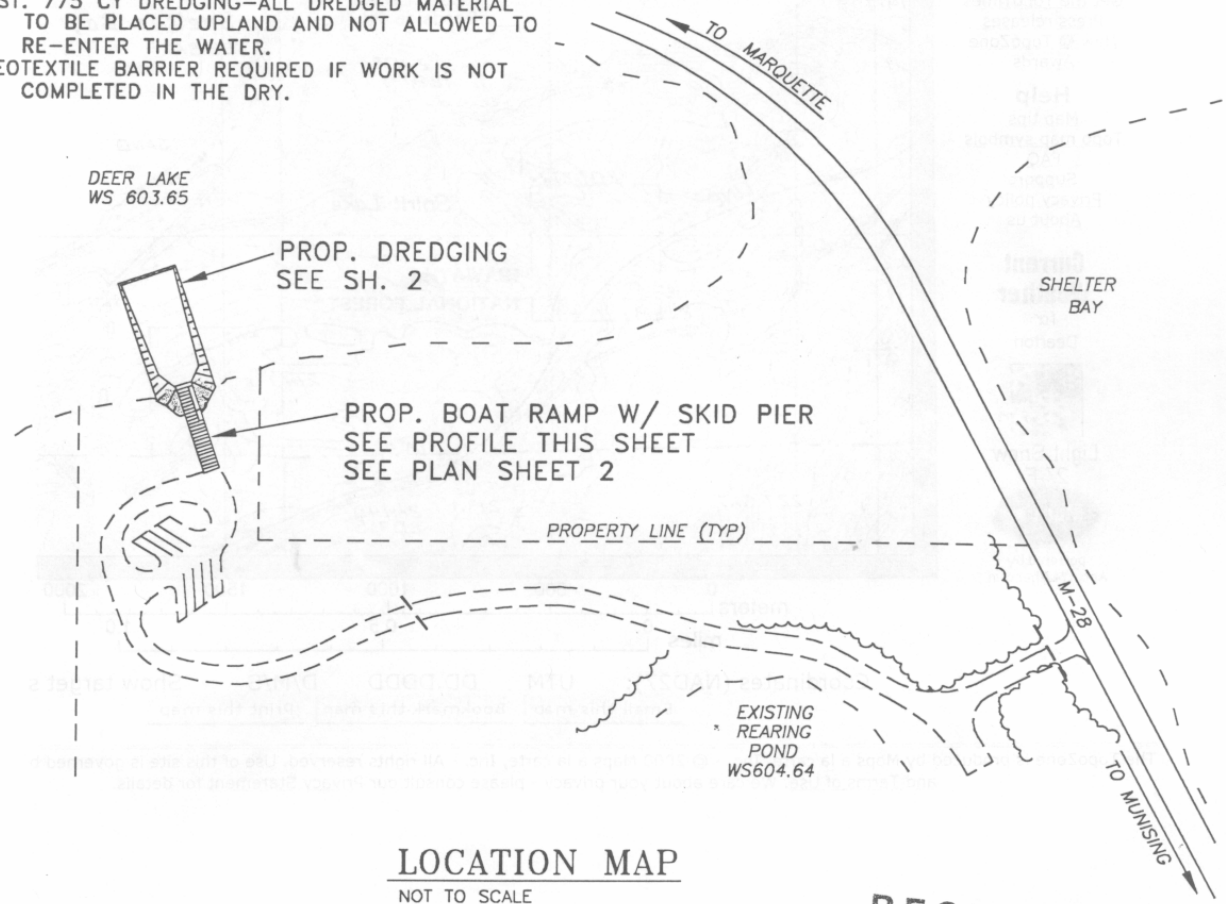
NEW RAMP SECTION (Sample Drawing 44)



NEW RAMP SITE PLAN (Sample Drawing 45)



EST. 775 CY DREDGING–ALL DREDGED MATERIAL TO BE PLACED UPLAND AND NOT ALLOWED TO RE–ENTER THE WATER.
GEOTEXTILE BARRIER REQUIRED IF WORK IS NOT COMPLETED IN THE DRY.

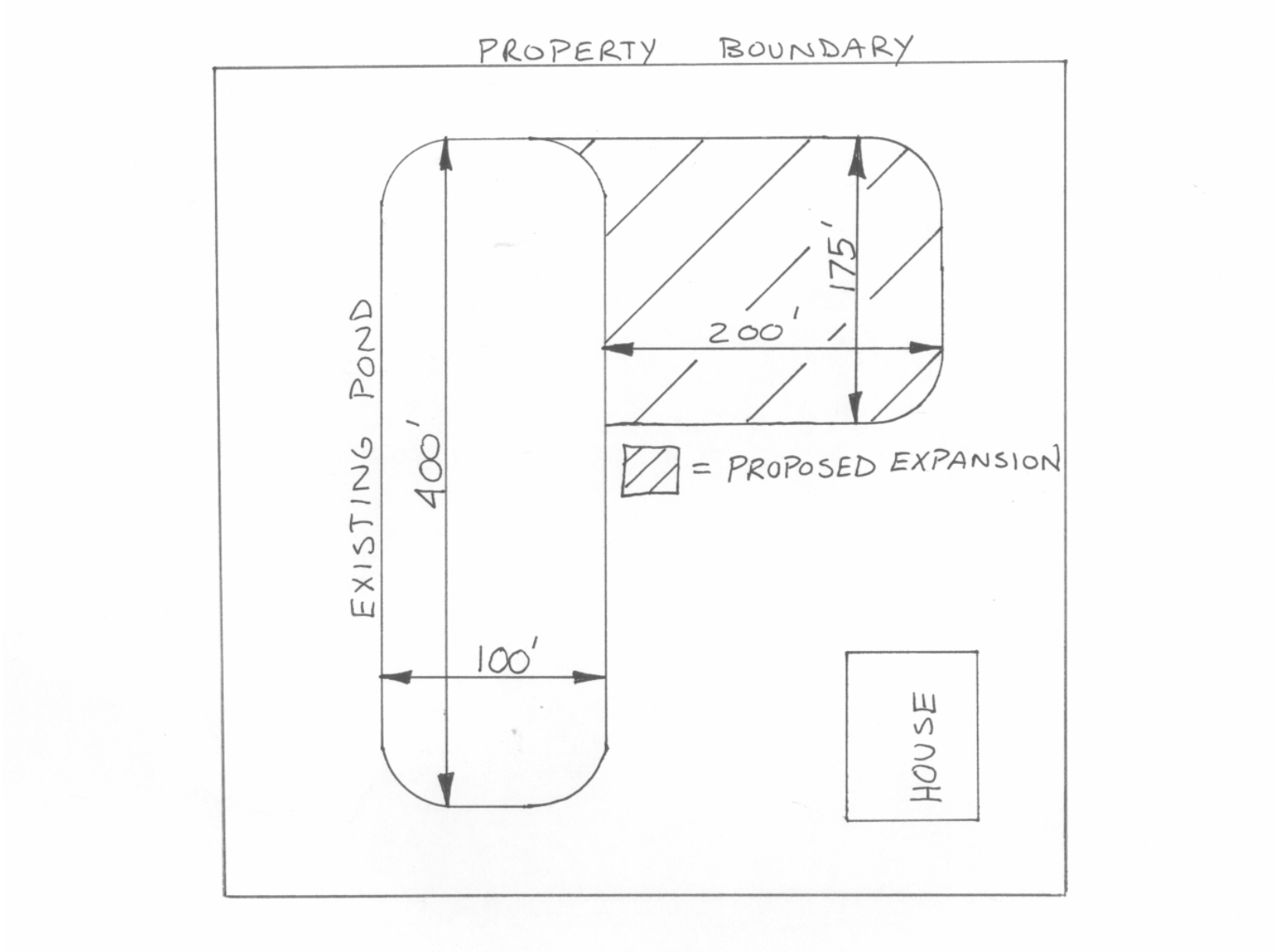


LOCATION MAP
NOT TO SCALE

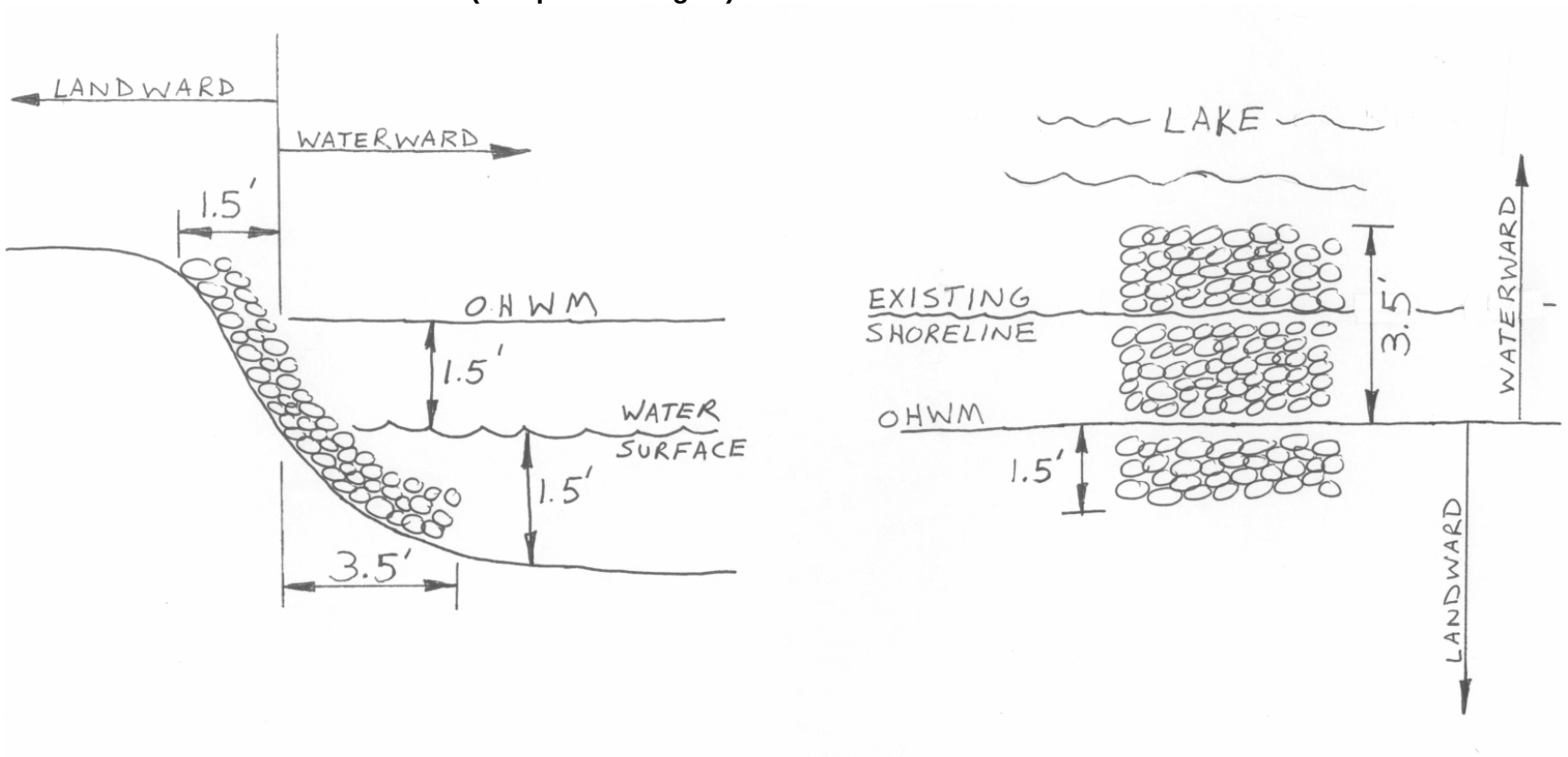
RECEIVED
FEB 13 2001
ENVIRONMENTAL

N
NOT TO SCALE

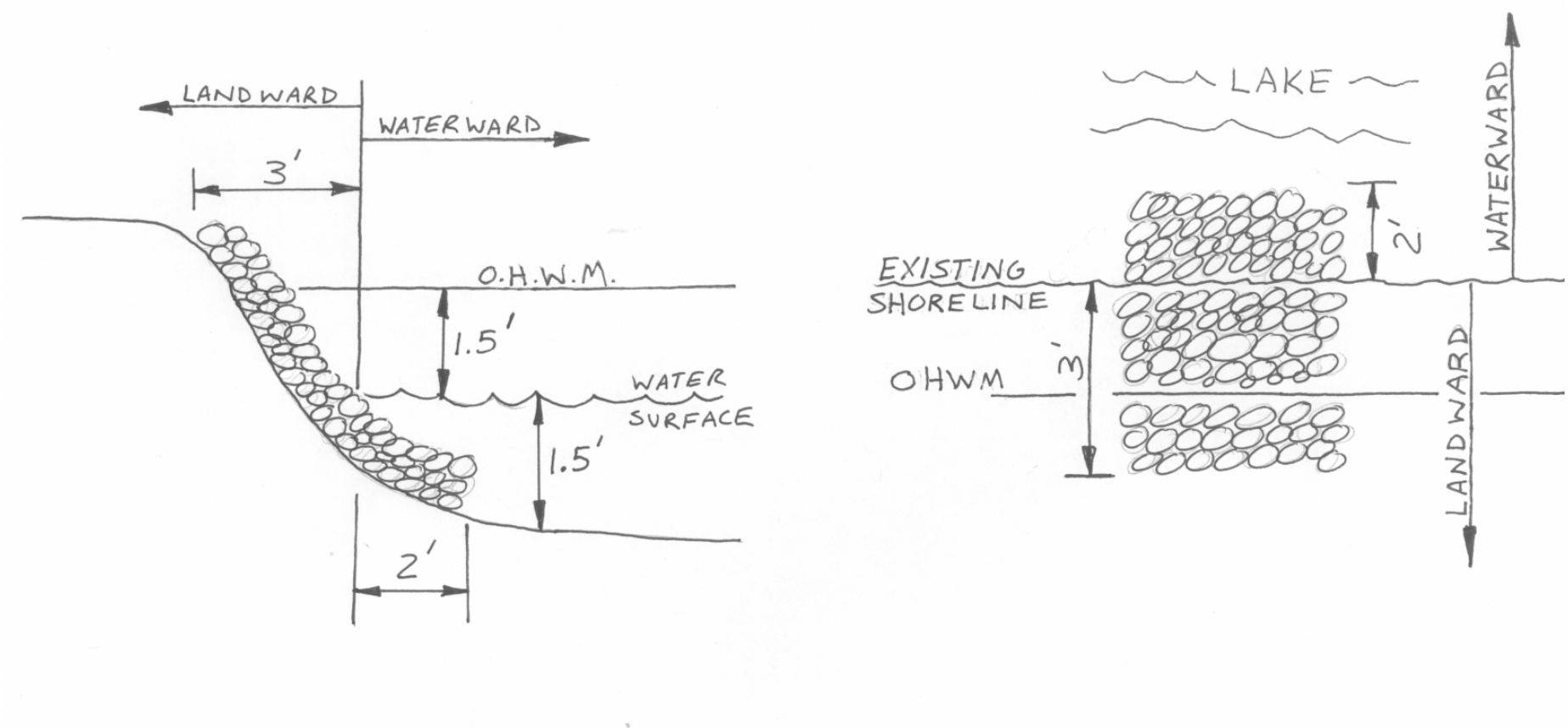
POND EXPANSION (Sample Drawing 46)



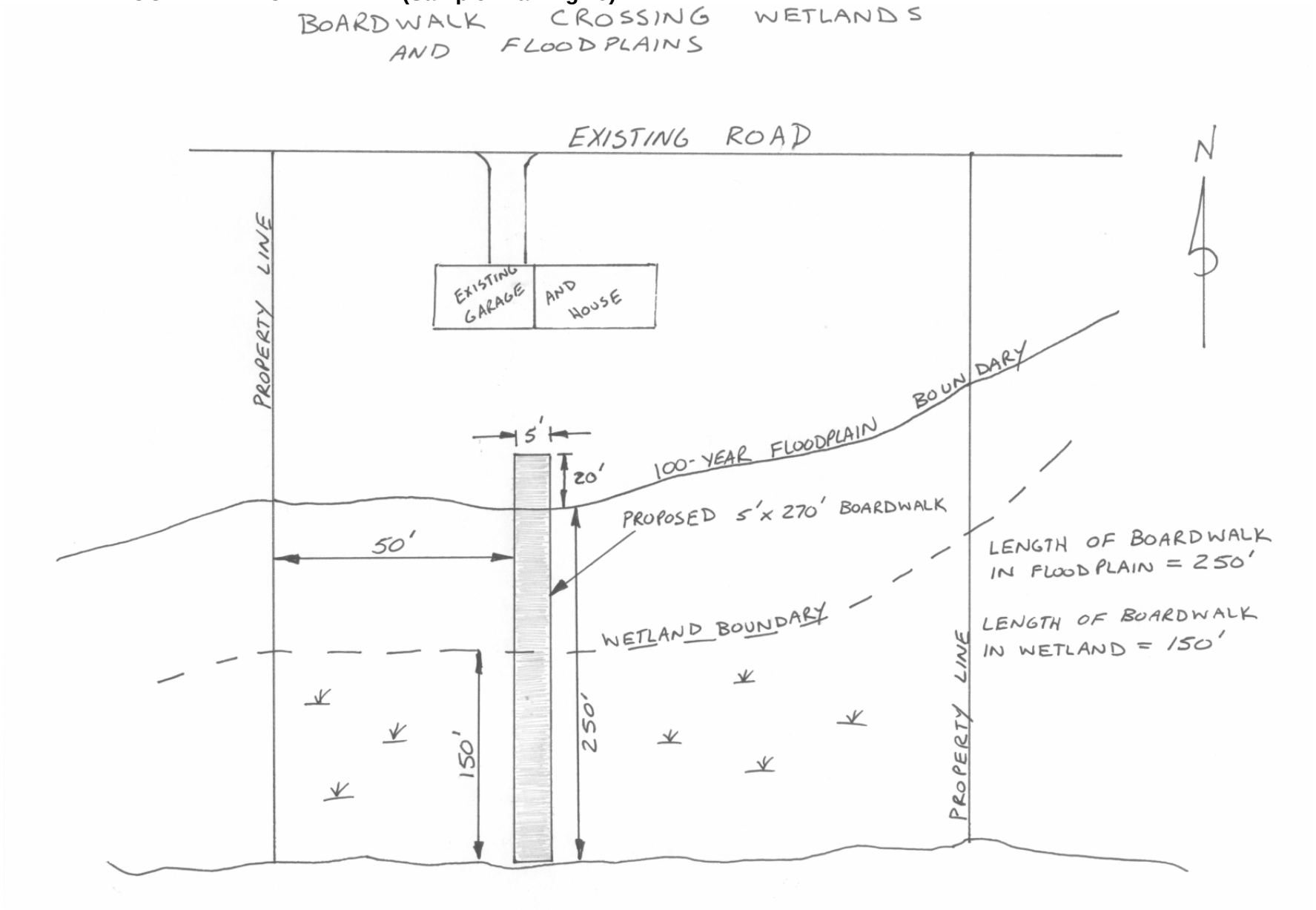
WATERWARD / LANDWARD OHWM (Sample Drawing 47)



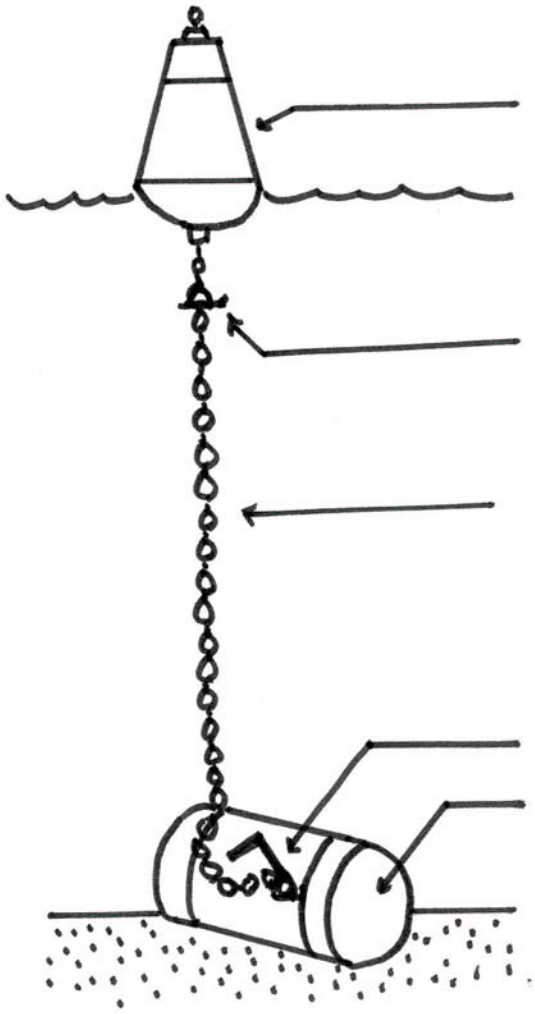
WATERWARD / LANDWARD SHORELINE (Sample Drawing 48)



WETLAND FLOODPLAIN BOARDWALK (Sample Drawing 49)



MOORING BUOY (Sample Drawing 50)



24" Diameter Buoy
200 lbs Buoyancy
White with Blue Stripe

5/8" Shackle

1/2" Proof Coil Chain
Depth of Water + 6'

5/8" Shackle

1,500 lbs Concrete

Lake Bottom

MOORING BUOY (Sample Drawing 51)